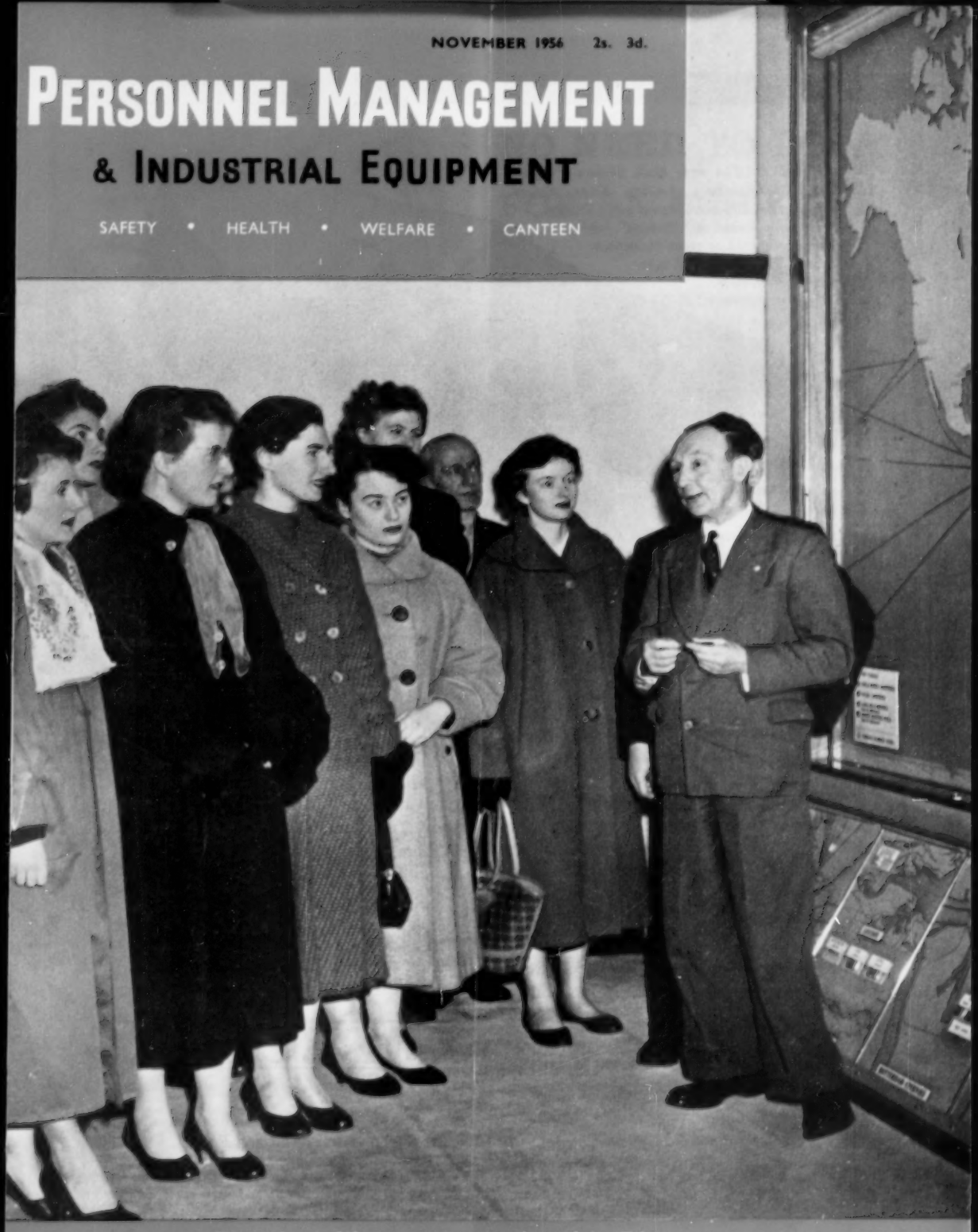
NOVEMBER 1956 2s. 3d.

PERSONNEL MANAGEMENT & INDUSTRIAL EQUIPMENT

SAFETY • HEALTH • WELFARE • CANTEEN



Putting Newcomers in the Picture *(see page 257)*

No. L 113. *The new black Oxford "Lightweight" Totectors Safety Shoe, welted construction, Dri-ped Chrome soles, Dunlop heel, vamp linings of "Protexa" fabric, specially treated to resist breakdown caused by moulds and other micro-organisms.*

(**L 243.** *Full Brogue with tan uppers, Sussex twin grip heel.*)

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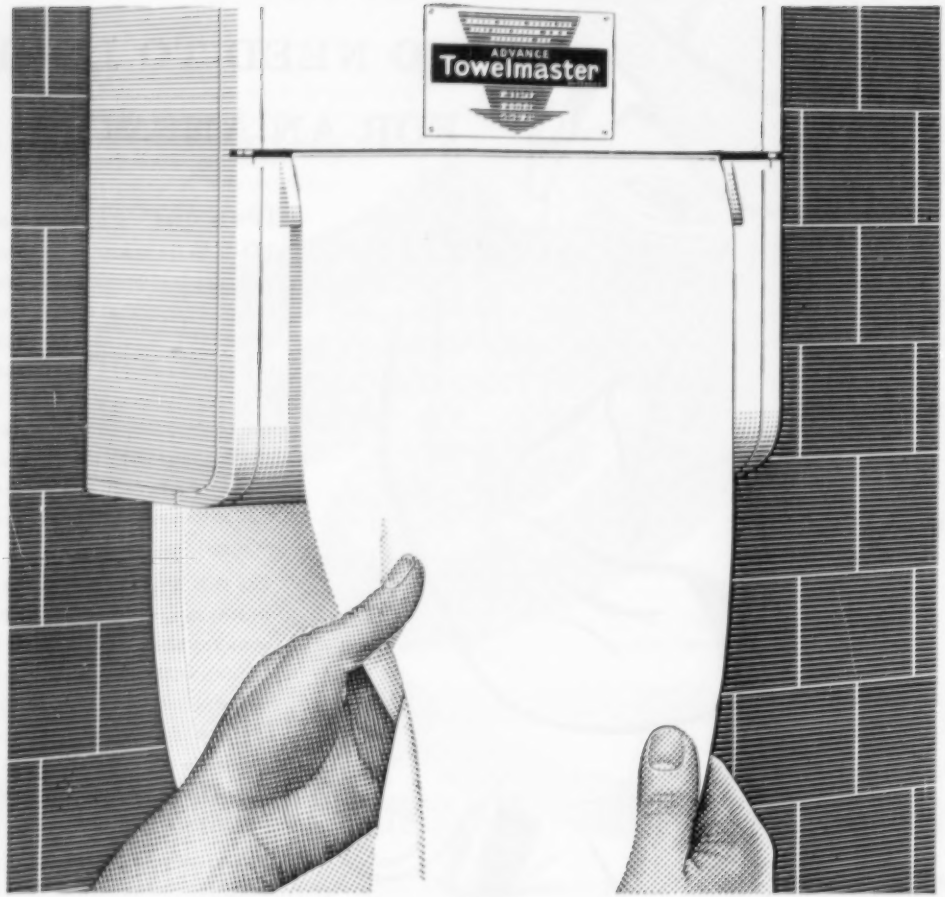

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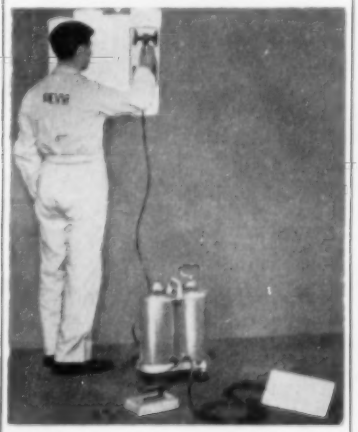

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NOVEMBER, 1956

PERSONNEL MANAGEMENT & INDUSTRIAL EQUIPMENT

SAFETY · HEALTH · WELFARE · CANTEEN

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Details to watch for when issuing belts and harness to operatives working at heights

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Some simple methods whereby an efficient check can be kept on canteen food stocks and issues

NEW INDUSTRIAL EQUIPMENT

EFFICIENCY AIDS ★ CANTEEN ★ HANDLING HEATING & LIGHTING — 279

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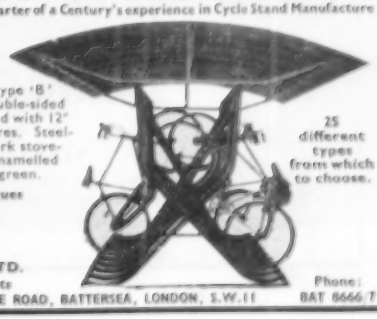

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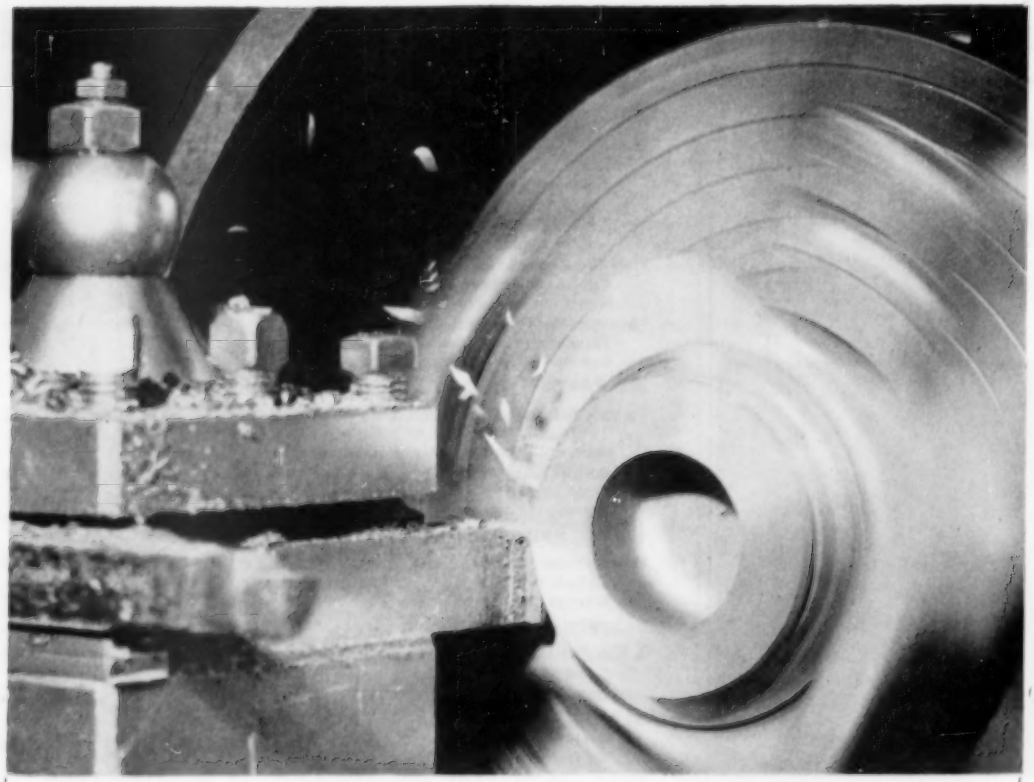

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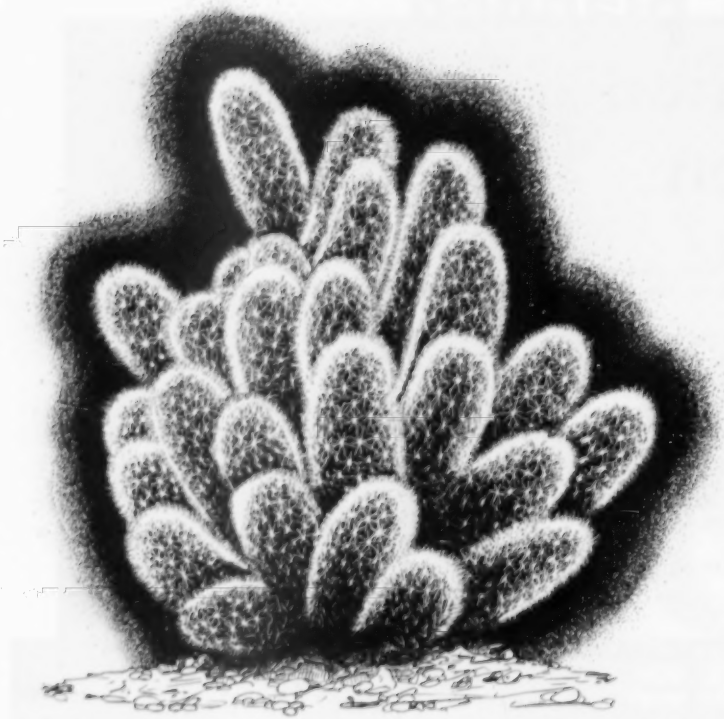

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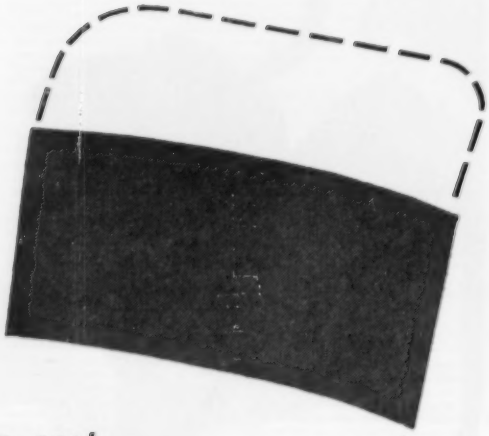

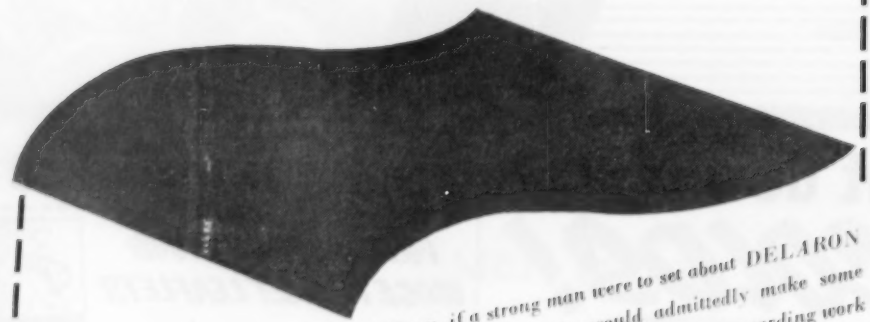

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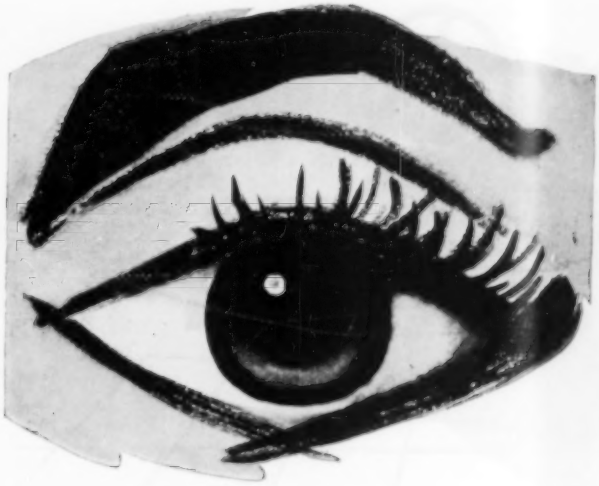

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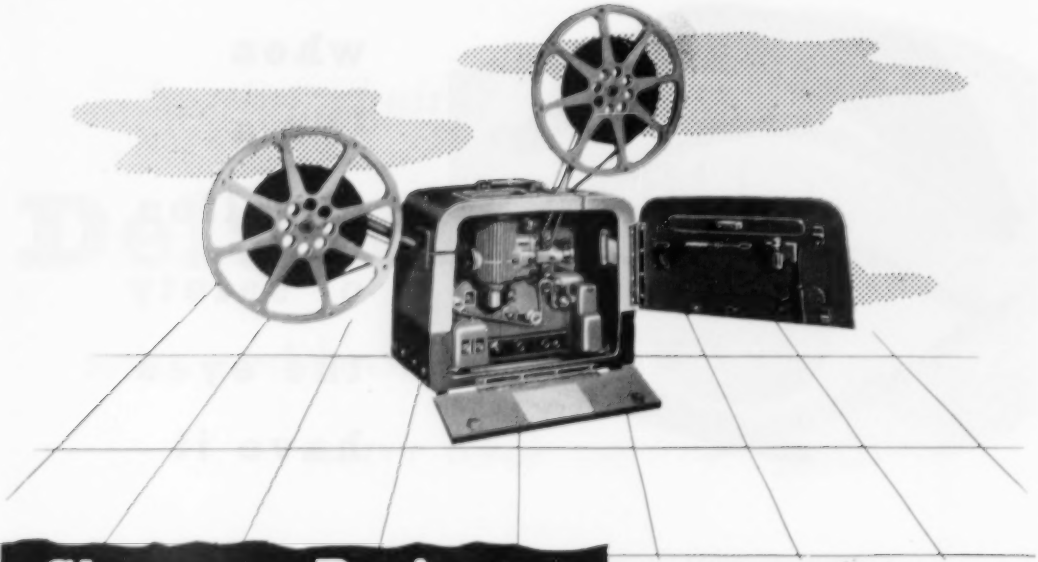

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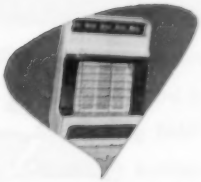

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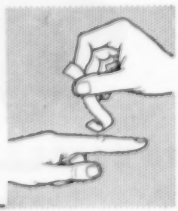

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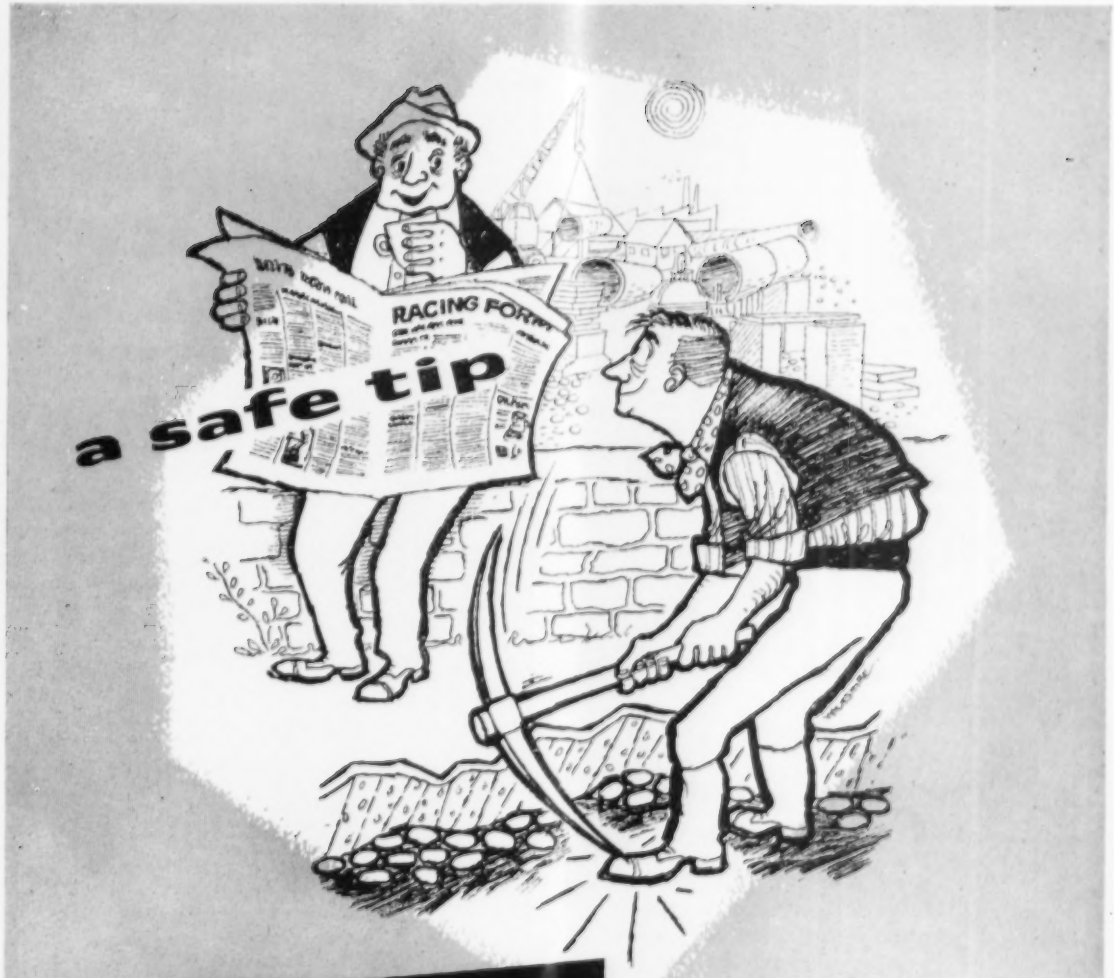

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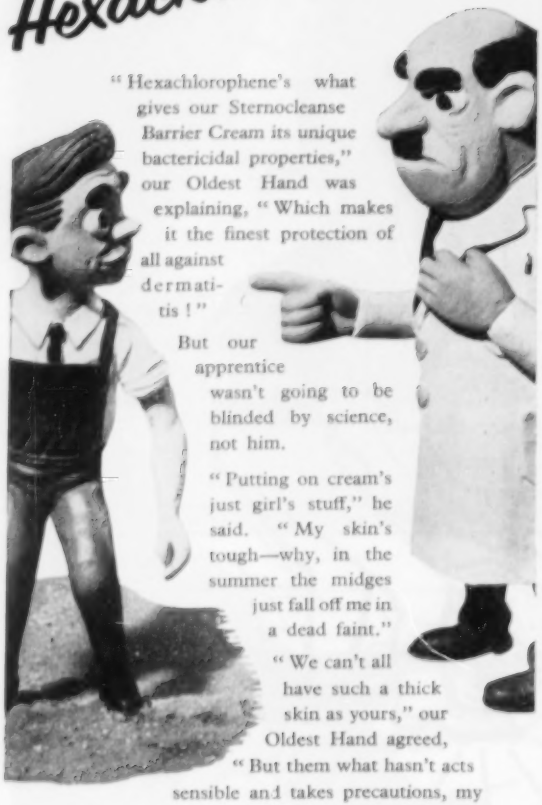

"Hexachlorophene's what gives our Sternocleanse Barrier Cream its unique bactericidal properties," our Oldest Hand was explaining, "Which makes it the finest protection of all against dermatitis!"

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FOR MR. FRANCIS

STAFF LOCATION
BY VISUAL INDICATORS

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The system consists of a series of lamp indicators each of which has the three numerals 2—4—6 which are illuminated to form simple codes of one, two or three digits. Up to 40 codes are available.

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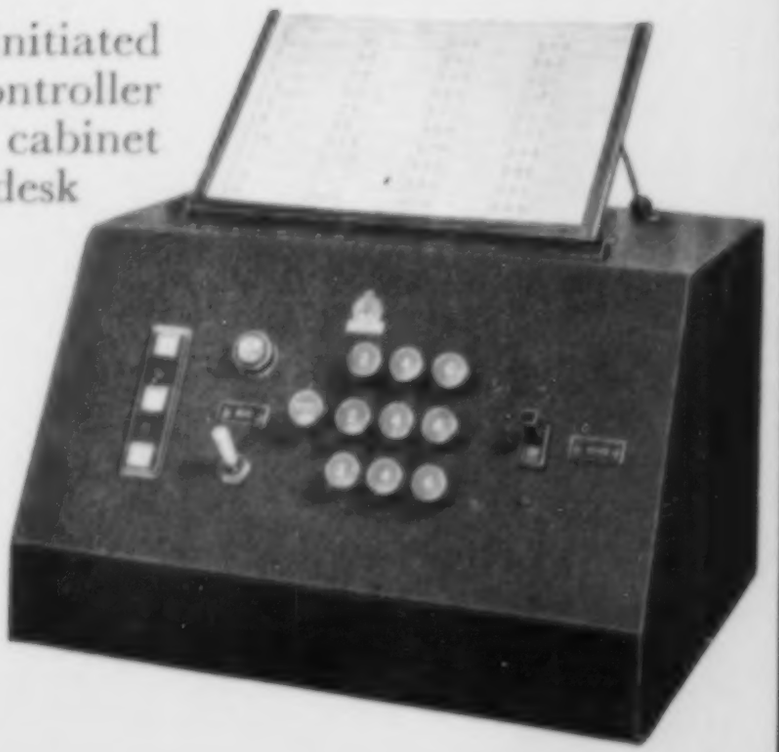

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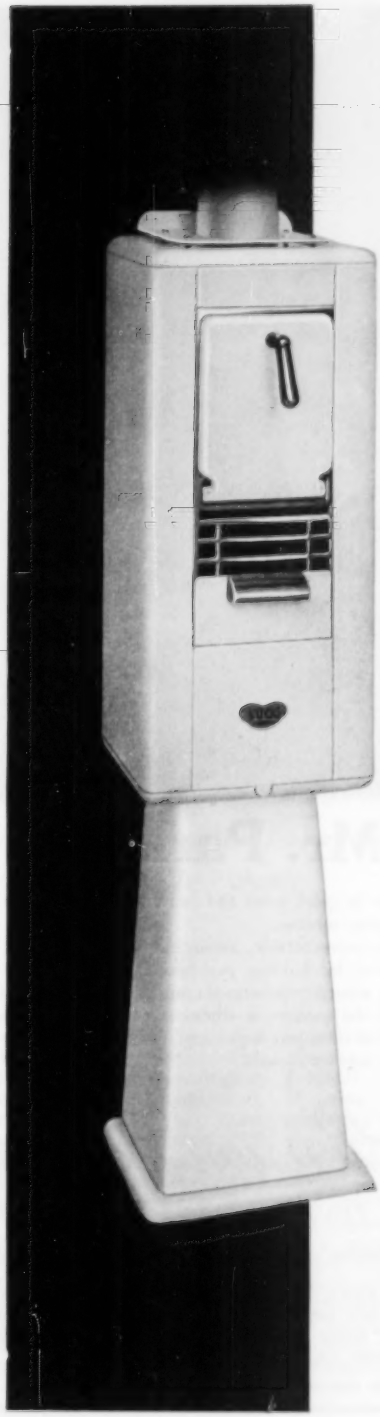

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The Red Carpet or Cold Shoulder?

A Modern Technique For Welcoming New Employees

By ROBERT McKINNON

A case history of the Shell Petroleum Company showing one or two methods of making newcomers feel at home in the firm of their choice.

CERTAIN psychological truths that are seldom ignored in private life are often neglected in industry, and in management circ'es one of the main casualties is due attention to first impressions. We are all influenced by these more often than we care to admit yet even to-day the firm that goes all out to create a good impression on its new entrants is the exception rather than the rule. Nothing is more calculated to raise the blood pressure of a personnel officer than the applicant whose attitude at the interview is an insolent blend of "couldn't care less" and "take it or leave it". But how many firms unwittingly adopt something of a like attitude when "welcoming" new entrants into the fold, or, at the most, leave the job half done?

In the circumstances a document recently issued by the Employee Information Division of the *Shell Petroleum Company* is of great interest. Entitled *Notes on the Publication of Welcome Booklets*, this document combines shrewd common sense with psychological insight and could be read with profit by everyone concerned in industrial relations. It was also instrumental in our investigating the company's introductory procedure as a whole. And though we were aware that techniques geared to an international group of companies employing about 250,000 people would not necessarily be valid for the small or medium firm, the results of our investigation were to show that much of what *Shell* is doing (and they are the first to admit that they don't know it all) could with success be adopted by companies of any size.

With *Shell* the introductory machinery is set in motion at the pre-selection stage. The appointment of newcomers is in the hands of Recruitment Division which makes use of two main channels—contacts with schools and universities and Press advertising; a third and valuable source is the recommendation of the company to candidates by members of the staff. It is from the sixth forms and universities that the company expects to draw many of its future executives and senior technical staff and for them, as a first step, a series of publications called "Careers With Shell" is printed. But all would-be entrants to the organisation must first complete an application form asking more or less for the same details as such forms the world over.

Next, in the usual way, comes the initial interview. While this, in the case of younger applicants, may result in an immediate offer of employment, most of the more mature candidates, the pattern of whose interests is not set and who pass this first interview, are invited to meet a number of other senior members of the staff. These further talks are designed to ensure that a job is only offered to those in whom appear to have developed the qualities and interests that will lead them to find satisfaction in a career in the company. Then follows the letter offering the appointment, or the letter of rejection. In either case, even though a letter of engagement must set out formally the terms of employment, the tone is friendly and welcoming. After acceptance of the offer a very friendly letter is sent to

the newcomer together with the company's booklet "Introduction to Shell".

It is only actually after joining that the vastness of the *Shell* organisation begins to hit the new entrant; the *Shell Petroleum Company* is, of course, but one of the several hundred companies that make up the *Royal Dutch/Shell Group*.

About three weeks after joining the newcomer is sent to attend the one-day introductory course. The company do not put newcomers on this course right away, for it is felt that time is needed for settling down. In devising the course the Information Division was faced with a problem not met with in the medium or small firm where it is possible to take employees round the whole works and show them the various departments in operation. The most the *Shell* authorities could hope for was to give newcomers some general outline of how the whole organisation functions and how their jobs fit in and contribute. The course is given to parties of 20 and is held in the Division's Exhibition Room where various visual aids and sample products given an idea of the organisation's scope and activities. The syllabus, with appropriate breaks for coffee, lunch, etc., is as follows:—

THIS IS YOUR GROUP

Scenes from Shell Welcome Booklet show world scope of the group

Caqua, Venezuela. Shell Agricultural Service plane sprays a sugar plantation with insecticidal dust.

A Shell detergent is used for the cleaning of L.P.T.B. buses. Cleaning is carried out by a movable jig carrying rotary and spray booms.

1. Introduction (5 minutes). An amiable "Good morning" followed by roll call and issue of luncheon tickets.

2. Welcome to *Shell* (15 minutes). What the company is and does. Run through the programme so that party knows what is coming. Questions, then brief recap. on terms and conditions of service and welfare and social amenities.

3, 4 and 5 (1 hour 45 minutes in all) "Oil". What it is, where it occurs, potential areas, proved reserves, existing production areas, transport, processing, etc. Talks backed by charts, samples, and other visual aids.

6. Refining and Products (30 minutes). Crudes and their different properties, secondary products and chemical products, etc., etc.

7. Film "ABC of Oil" (10 minutes). Self-explanatory, to round off the general talks.

8. Filmstrip (20 minutes). History and Growth of *Royal Dutch/Shell Group*. Having explained about the industry in general, course goes on to explain about *Shell* in particular. Main purpose of filmstrip to explain meaning of "Royal" and "Dutch", how the name "Shell" originated and how two parent companies came together and started the family of companies now known as "The Group".

9. Royal Dutch/Shell Organisation (40 minutes). Talk with aid of flannelboard on the family tree of Group. Individual status of companies—no two alike, but none could stand by itself. London the commercial and The Hague the technical centre. Each member of the course is given an organisation chart of the company showing the branches for which the various managing directors are responsible.

10. Royal Dutch/Shell Activities (20 minutes). Brief discussion on how and where *Shell* is active in exploration and production.

11 and 12 (40 minutes in all). Visit to Distribution and Supply Department's map room and to Cable Department.

13. Royal Dutch/Shell and Your Job (40 minutes). How the London office is organised and your job fits in. Competition, the Group's main rivals. Finance and profits.

14. "Keeping Informed" (15 minutes). How to keep informed in future. Company publications. Functions of Employee Information Division. Closing discussion and questions.

To the objection that all this is rather much to cram into the uninitiated in one day, *Shell* point out that the aim is not to fill them up with facts and figures and that they are not expected to remember all they have been told. The object is to give them a background understanding of the oil industry and *Shell* and of how to keep informed in future; experience has shown that the course does fulfil this purpose. Moreover, this introductory course gives newcomers the feeling that efforts are being made on their behalf. Mention should be made at this juncture of the 13-week induction course for graduates which *Shell* provide mostly for young men who will be going overseas. This comes more strictly under the heading of training than of introduction, but naturally a "welcome to the company" forms an important part of the course.

But of all introductory features of techniques the welcome booklet, employee handbook, call it what you

Seria oilfield, British North Borneo. Students being trained on the internal combustion engine in the local company's artisan trades school.

Shell Petroleum Company, London. Employee amenities are, of course, illustrated in the welcome booklet. Here is the staff restaurant at St. Swithin's House, where 1,400 can be served in four sittings.

Another picture is that of the company's most elegant social club at Teddington, Middlesex.

will, is of cardinal importance in any firm and, as already mentioned, *Shell's* policy in the matter is full of good, plain commonsense. From the outset the company has recognised that such a booklet is no substitute for an introductory procedure, but it is a valuable aid to one. Moreover, if the newcomer has already received a booklet, it makes the whole business of introduction much easier.

A first essential of such a publication is that its approach should be human and should be written in clear and simple language. Information on company regulations and benefits should not be given in an impersonal, officious manner but rather as if they were being explained at a friendly interview. Thus it is helpful in building up an atmosphere of warmth and intimacy to use the second person throughout. Much better to say "You will be provided with . . ." than "Employees are provided with . . ."

"At the same time", say *Shell*, "the newcomer should not be given the impression that he is joining a sort of welfare society in which he will have many privileges and no obligations."

On the matter of contents, *Shell* recommends that a welcome booklet should concentrate on three types of subject matter provided that other information is given by other means such as introductory talks, etc. The three types of subject matter are:—

i. Facts about the company the newcomer is joining.
ii. Facts about the Group.
iii. Employee regulations and facilities.

In the company's opinion the order in which these sections are presented is not of vital importance, *but the booklet should always be prefaced with a message of personal welcome to the newcomer.*

As regards (i) Facts about the company, this should include a brief account of its history and development, its current activities and organisation, the number of people employed and how its products are marketed.

Where applicable, (ii) should give an account of the history of parent companies, of the development and growth of the Group and of the functions of the main operating companies especially in relation to the company the newcomer is joining.

Regulations and facilities should cover:—

- Working hours,
- Wages and salaries: date and method of payment,
- Holidays,
- Absence through illness or injury,
- Leave of absence,
- Notification of change of address, etc.,
- Safety and medical,
- Training and spare-time education,
- Opportunities,
- Recognition of long service,
- Retirement and pension and thrift funds,
- Employee information facilities,
- Canteens and staff restaurants,
- Sports and social clubs,
- Housing schemes,
- Other local benefits and amenities, and
- Personal problems.

Such a section, say *Shell*, "should close with the reminder that the

employee is expected to make his contribution to the prosperity of the company by his initiative and devotion to duty".

Other recommendations for welcome booklets are:—

1. It must obviously be inviting to read and should, therefore, be well printed on good quality paper and the design and layout entrusted to someone with skill and experience. But it should not be too lavish as this sometimes rouses suspicion.
2. Photographs are very important and these should emphasise the local scene. Pictures should cover not only company operations, but also the work and leisure of employees.
3. A welcome booklet should have a life of at least two years so as to avoid the trouble of constantly amending and reprinting it. Therefore, information which is likely to be out of date in the foreseeable future should not be included.
4. When a welcome booklet is being issued for the first time, it is worth while extending the distribution to existing employees, with a covering note explaining its primary purpose, but adding that they, too, may find it useful. This will help dispel any feeling that more is being done for the newcomer than for the "old hand".

The reader may finally put the questions: "Is all this really necessary? And does the newcomer really want to be put through this introductory mill?" The answer is that putting the newcomer in the picture is just as vital a part of communication as keeping the established worker abreast of events affecting himself and his company. One is a logical extension of the other, and for communication to be effective one has no choice but to begin at the beginning. And recent events have dramatically borne out that managements ignore keeping employees informed at their own cost.

Various companies in the Shell group publish their own employee handbooks. As can be seen, a great variety of design results.

8 Points for Employee Handbooks

1. *An employee handbook is an aid not a substitute for an introductory procedure.*
2. *Write the book in the second person. Keep its language simple and its approach human.*
3. *Do not, however, give newcomers the impression that they will have no obligations.*
4. *The contents should comprise chiefly facts about the company and its history and details of employee regulations and facilities.*
5. *Print on good quality paper and have design and layout done by experienced person.*
6. *Pictures should cover work and leisure of employees as well as company operations.*
7. *Do not include matter that is likely to be out of date in the foreseeable future.*
8. *Extend its distribution to established employees lest they think they are not being kept in the picture.*

NEXT MONTH'S ISSUE

Two important features of the December 1956 issue of this journal will be:—

THE CASE FOR A NATIONAL ASSOCIATION FOR INDUSTRIAL SUGGESTION SCHEMES

and

AN ENQUIRY INTO NEUROTIC ABSENTEEISM IN INDUSTRY

Both these articles contain important and interesting new ideas.

"Conscience Prodders of Top Management"

Minister's View of Today's Personnel Officers

By THE EDITOR

WRITING on last year's I.P.M. Conference, I noted with some surprise that its agenda included nothing on automation which was then building up into the national issue it has since become. No one, however, could accuse the Institute of being untopical at this year's gathering (Harrogate, October 12 to 14). Indeed the reverse was true if anything. With its theme "Full Employment and Industrial Change", the Conference engaged in a bit of industrial pathfinding and scouted cautiously into the future. There was of necessity much intelligent guesswork in the speeches which at times left the 900 delegates to guess in turn at the meaning of the speakers. But this was as it should be, for only fools and prophets dare to be dogmatic about the future. And as one of the main speakers, the Earl of Halsbury, himself said, "Behind all the verbiage lies a real topic".

As already stated, the Conference theme was billed as "Full Employment and Industrial Change". Behind this lay the question to which the three main speakers reverted, namely—what are we going to do about the social changes that will inevitably result in the factory from such technological change as we are experiencing today?

The Earl of Halsbury, managing director of the National Research Development Corporation, said that maybe there was no problem involved. He put forward the idea that advancing technology has nothing to do with unemployment and pointed out that today we enjoy twice the income and consumption that we had in 1900, and that in the long run a dying craft goes hand in hand with an ageing population. Is there a normal state to which our social economic system tends to revert, he asked? If so, is this a state of deflation and unemployment or of inflation and full employment? Much more would have to be known about labour turnover. A 50-year career time, he said, means a 2 per cent turnover each year but if in the course of his life each man has five jobs, the turnover rate becomes 10 per cent for the whole country. But present Ministry of Labour figures show a turnover rate averaging 20 to 30 per cent per annum.

On the question of what happens when a man is displaced by a machine, Halsbury insisted that the cost of retraining the man so that he can be redeployed in another section of the factory must constitute part of the true cost of the new process. The human stress will be least if he can be absorbed in the same department, more if only in the same factory, more if only in the same area and so on. Management certainly, therefore, is likely to have an increasing social duty towards its employees. Nevertheless, he stressed, we have got to get people thinking in terms of looking after themselves.

Much the same conclusion, put in a different way, was reached by Dr. Torrie, a consultant psychiatrist, who gave the opening address on The Limits of the Contribution of Social Science to Management. Dr. Torrie had no doubt that social scientists could be of great help to management in this modern age though he was aware that many firms shied at the idea of using a psychiatrist or like specialist. This latter represented a step into the unknown and that was something mankind had always feared. Yet the scientist would always be limited in this work by the fact that human beings cannot be explained entirely in scientific terms; more could be done in dealing with group behaviour. Adjustment to change could only be successful when people themselves made some effort. Nor would it be a good thing to try and adjust everyone. Certain people, like the artist, who has been termed "a creative psychopath", would suffer from any such attempt.

The closing address was given by the Minister of Labour, the Rt. Hon. Iain Macleod, M.P., who never fails to give the impression that he is both sincere and full of ideas. At Harrogate, Mr. Macleod was in his usual form. The problem, as he saw it, consisted of two main imponderables: the ability of man to adapt himself to the new techniques, and how man would use his rewards from the benefits of the new technology.

"I look forward", he said, "to a new level of social responsibility in individual firms. The State has, of course, its responsibilities—my Department is eager in fact to play its part—but it rests with employers and they must accept the moral responsibility for planning the employment of their workpeople. . . ."

"As personnel managers you are conscience prodders of top management though I do not want to suggest that only you in the management structure have moral decisions to make."

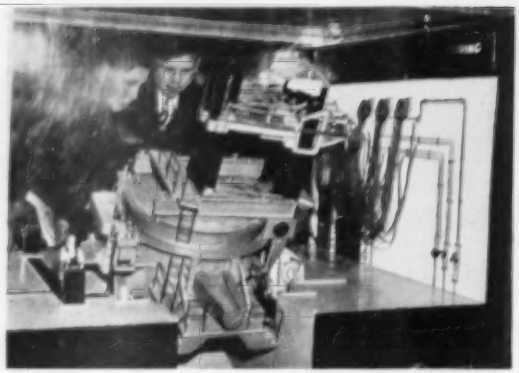
Mr. Macleod went on to say that he would like to see the closest contacts between personnel managers and the officers in the local exchanges of his Ministry. He wanted to bring to the notice of everyone the great opportunity coming to us from the bulge in the birth-rate. (*This subject was fully dealt with in the October*, 1955, *issue of this Journal.*)

A harmonious sociological change in industry, he concluded, depended on the right environment and effective communication. Environment was most important if we wanted people to do our will. "You cannot", he said, "cook up consultation just to meet a sudden emergency." Where communication was concerned, the Minister advised his audience to talk in terms that workpeople would understand. He used the military analogy of "thinking two down" by which he meant that information and instructions should be couched in such terms that not only the immediate subordinate but the ranks below would understand what was wanted or being said.

There were times when the delegates must have wished that the speakers had employed the "thinking two down" technique. That apart, the Conference was an unqualified success.

The following were elected to the general committee of the Institute of Personnel Management at its annual conference on Saturday, October 13: President—**Miss M. T. Hankin** (*Cadbury Bros. Ltd.*), vice-presidents—**Mrs. M. J. I. Gilmore** (*Ministry of Labour*) and **Mr. B. F. Hutchison** (*Philips Electrical Ltd.*), honorary treasurer—**Mr. F. W. Lawe** (*Harrods Ltd.*), honorary editor—**Mr. T. H. Hawkins** (*Steel Peech & Tozer*), honorary secretaries—**Mr. H. Burrell** (*Ministry of Supply*) and **Miss M. C. Stewart** (*John Player & Sons*). The immediate past president is **Mr. G. I. Gibbons** (*Courtauld Ltd.*).

Fascination—A working model of a furnace is just the thing to capture the attention of would-be apprentices. Birlec attributes the first flood of applicants to its successful display in a local careers exhibition before the scheme began.



Concentration — Final selection of "technical" and "craft" apprentices will come after the first year. Even if this boy does not become a draughtsman, his future work will be the better for the hours spent at the drawing-board.

"Personnel Management" Picture Story

Today's Investment for Tomorrow's Skill

A Medium Sized Firm Sets an Example

By DAVID JUDGE

A DOWN payment of £25,000 and £20,000 for each successive year—that is the cost to *Birlec Ltd.* of their new instalment plan for apprentices. It is a lot of money considering that this furnace manufacturing firm employs only a thousand workers. But to *Birlec* its recently opened apprentice training centre represents a sound investment for the future.

Before the centre was built a quarter of a mile from the firm's works at Erdington, Birmingham, *Birlec* had already been running its own apprenticeship scheme for some considerable time. But the time came when the annual recruitment of no more than ten boys was not enough to fill the increasing vacancies in the workshops and drawing offices, and so the new training centre was conceived.

The scheme is operated under the guidance of a four-man committee, consisting of Mr. P. F. Hancock, technical director, Mr. A. E. Pickles, director and general sales manager, Mr. S. Embleton, personnel manager, and Mr. E. May, chief electrical engineer and the scheme's chief training officer.

In selecting the staff directly responsible for training, the firm has been able to blend the necessary practical knowledge with a background of academic experience. Mr. May has been with the firm since 1945; before this he was on the staff of the electrical engineering department of the Birmingham College of Technology, and his principal assistant, Mr. W. Prentice, was for the past seven years a lecturer at Wolverhampton's National Foundry College. The two full-time instructors have between them over 47 years' service with the firm. Before this appointment, Mr. H. Bayliss, the drawing office instructor, was a section leader in the drawing office, and Mr. J. Brear, workshop instructor, was previously responsible for apprentice training in the instrument room.

When the committee came to the selection of the first of the new apprentices there was no shortage of applicants. While the scheme was still in the planning stage, a careers exhibition was held locally, sponsored by the Erdington Rotary Club. *Birlec* was represented by a stand on which the main exhibit was a working model

First steps in safety—Watching a skilled craftsman at work, the apprentice learns not only how the job is done but how to do it without risk of accident. For further guidance, safety regulations are prominently displayed.

Light and neat. This general view of the workshop gives some idea of the first-rate conditions under which the boys are trained. The instructor does in fact have an office here but it is rarely used, for personal supervision is a keynote of Birlec training.

Practice—The day a boy operates his first machine single-handed his dream of craftsmanship starts to become reality. Before training is complete both "technical" and "craft" apprentices will co-operate in designing and building a scale model of a Birlec furnace.

of one of the firm's products—a 20-ton Lectromelt arc furnace. As a display it was a great success, besieged by crowds of fascinated boys. More than that, the parents were attracted too—to the prospect of a rewarding career for their sons. Consequently the siege moved to the personnel office, and by the number of application forms requested and completed the committee has discovered it can afford to be far more particular in its selection than it had at first been thought possible.

With the application form, each candidate was given an illustrated booklet describing the scheme, prospects with the firm and its place in the industrial world. It sets out the many attractions *Birlec* offers its employees, from the man who indulges in small-bore rifle shooting in his spare time to the man who is interested in a pension at 65 years financed entirely by the company.

The first 45 boys have now begun the first stage of their five-year apprenticeship, bringing the total

Theory—Important though practical instruction may be, there is still the theoretical side to be learned. Study in the lecture room is supplemented by at least one day's attendance a week at local technical colleges.

number of apprentices to approximately 80. Most of the boys come from the Birmingham district; those who live elsewhere are found accommodation from a lodgings directory which the firm has compiled. Nineteen of the last five years' group will be attending the new centre for extra training with the equipment and amenities this well-planned building has to offer.

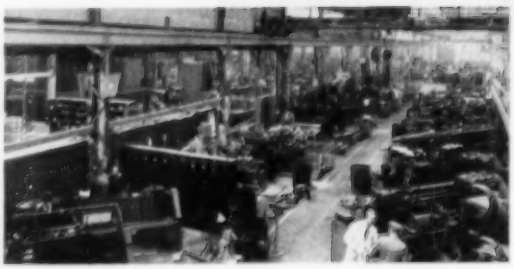
Built on to existing store-room premises of the firm, the centre is a one-storey structure, consisting of drawing office, lecture room, workshop, staff offices and cloakrooms. The rooms are spacious and bright; generous window area has permitted the designers to make fullest possible use of natural lighting, although up-to-date artificial lighting is a prominent feature.

All equipment used by the boys is new and of a style similar to that which they will be using in the firm's workshops and offices. Thus, in the drawing office, each double elephant drawing stand is fitted with parallel motion drafting units and its own reference table. Every item the boys will be expected to use in the course of training has been provided at the firm's expense. The benches in the lecture room serve two purposes. They can be used as desks for taking down instruction, and are also sturdy enough for use in experimental work. Here, as in the drawing office and workshop, sliding blackboards are fitted.

Beside the comprehensive practical training for which the workshop is designed, with its impressive array of equipment for shaping, milling, grinding, fitting, plating and welding, the accent has been placed firmly upon safety. Each apprentice is carefully instructed in the safe handling of each machine, and in case of any emergency chain switches are suspended in strategic positions round the shop. When one of these is pulled the power is automatically turned off and every machine comes to a standstill. By the door the Factories Acts are displayed. Each boy is told to read and remember them, with the rider that failure to comply with any of these regulations is an infringement of the law affecting the individual as much as the company.

The first year is spent entirely at the centre, apart from at least one day a week devoted to courses at the local technical colleges. At the end of this probationary period the apprentice receives his indentures, dated from his sixteenth birthday or date of engagement, whichever is the later.

Application—From his second year onwards the apprentice's work becomes productive. Apart from a three months' course of advanced training at the centre in his fourth year, he will now learn his trade in the factory.



Achievement—The apprentice is now a craftsman and this is where he will work from now on. He feels no uncertainty for under the Birlec scheme he was a real member of the firm from the very first day his apprenticeship began.

Training is then continued for the next four years in appropriate departments of the main factory. Selected apprentices may be offered the chance of attending sandwich courses of four to five years at a college of technology, leading to qualification for membership of the appropriate professional engineering institution.

There are two main courses provided, "technical" and "craft", but there is no arbitrary direction into either stream until the first year has passed. In this way the boys can see all sides of the firm's production methods. A boy who shows an aptitude for the drawing office will be better for having learned to handle and shape metal, and his future work will be more soundly based upon a knowledge of the practical methods employed in working from his drawing.

Industrial training, although the *raison d'être*, is not the whole story, however. *Birlec* also intends that its apprentices shall develop a group-consciousness, ready to be absorbed into the 1,000 strong family of the firm. Thought is being given to the important leisure hours, to sport and recreation. They hope to form their own apprentice association, and in the meantime the boys are organising football and table tennis matches.

In conversation, the organisers find it difficult to go long without turning the subject back to the scheme which occupies so much of their time and thoughts. When one has been there it is easy to understand their concern and enthusiasm. Even a visitor with only a few hours spent in watching and listening cannot help carrying away with him a little of that enthusiasm for a project showing such vision and earnestness.

How to Select and Use Safety Harness

WHEREVER working at heights is involved, where there is a risk of loose materials falling or moving, in places where an atmospheric hazard may arise, belts and harnesses figure prominently in the safety picture. Mechanics, crane-drivers, structural workers, operators entering tanks, vats or underground passages—all must be protected by belts. This article therefore aims at telling how to select, use and maintain such equipment bearing in mind both the normal and emergency demands that may be made upon it.

Normal use involves little stress, rarely more than the static weight of the user. Emergency use, often taking the form of checking a man's fall, involves sharp stress plus impact loading which—stretching to every part of the belt—may be many times the weight of the operative.

A considerable amount of research and experiment has been carried out on this type of equipment and, as a result, certain facts have been clarified. Materials differ widely in characteristics and it is well to know these differences. Webbing, for instance, will stand more heat than leather and when saturated with water will dry out to its former condition. Leather must be well oiled in which condition it is chemically resistant, a most important consideration in many jobs. Leather 1½ inches wide and ¼ inch thick has an ultimate strength of around 500 lb. which is adequate for hauling a man out of a tank. But leather needs regular and scrupulous care.

To fix the safety margin for a given job, certain calculations must be made. For example, belts designed to check a fall need strength proportionate to the possible distance of the fall and of the weight of the person involved. Thus tests have shown that a leather belt 2 inches by ¼ inch arrests the fall of a window cleaner at 6 feet, but it is liable to break at ten feet. Such details are obviously important for certain conclusions can be educed from them such as the standard recognition of the fact that for a generous margin of safety a leather belt should be at least 3 inches by ¼ inch.

Various devices can be incorporated in harnesses—shock absorbers for instance to reduce the severity of impact—and there are several methods of treating materials to give them qualities required for specific working conditions. To mention but one, webbing can be impregnated with neoprene so as to make it acid-resistant.

Inspection and maintenance of belts and harness is a major element in their safe use. Leather needs to be treated with castor, neatsfoot or a compound oil and not with a mineral oil. Belts made of leather can be washed in warm soapy water using one of the saddle soaps on the market; drying should be at room temperature and never in strong sun. Webbing on the contrary is not affected by temperature at least up to boiling point. Rope where it is used in life lines must be carefully inspected, kept in open coils and not bent acutely. Certain devices will check wear. Friction buckles, for instance, should be used with webbing to obviate weakening of material at the buckle vents. Webbing can be coated, furthermore, to resist mildew.

Belts and harnesses figure prominently in the safety picture and, as the author stresses here, selection of the right equipment for the job in hand is half the battle. One example is shown, right, where an outer belt encircling the pole is securely attached to a leather body belt buckled round the waist and safety slides also fitted.

Picture, courtesy Siebe, Gorman and Co., Ltd.

By HENRY ALLEN

Selection of the right harness for the job is the kernel of the safety code. The field here however has been more fully illumined and the data is well enough known. One need only enumerate the essential points. Where there is risk of fire for instance, quick release mechanism is imperative. The petroleum industry needs belts with a quick release buckle which can be instantly disengaged by one hand. In many jobs, harness type protection is better than belt as it distributes the shock, if any, over back, shoulders and waist instead of focusing it at the waist.

Where a belt must support the entire weight of an operative in the course of the job then the boatswain's chair is standard. And in many jobs a light belt is sufficient as long as a life line is attached. The usual material for lifelines is ½-inch nylon rope or ¾-inch manila. The former has more stretch than manila and great tensile strength in both wet and dry conditions. Its stretch enables it to accept sudden shock, and it is tough,

(Continued on page 284)

Management News & Ideas

Significant Figures

NO one would deny that productivity has an important bearing upon this country's present economic situation. The point has been made often enough. But the individual worker is inclined to leave economic situations to the economists. He is more likely to respond to official calls for higher production if he can see clearly how industrial output affects his own standard of living. Arguments speak louder than exhortations—if the argument includes him as an interested party.

Undoubtedly there is something wrong when an increase of 20 per cent in wages realises an increase in living standards of only 7½ per cent. Yet that has happened to the British worker in the years since 1953, simply because output has not kept pace with wages. This is a state of affairs which he can understand.

These and other interesting figures are given in the October issue of *Business*, to show that in the same period although American and German workers gained wage increases of only 10 per cent the increase in their living standards was worth an almost equal amount simply because their output rose at a corresponding rate. The examples show that the overall effect upon living standards of a small wage rise is better for the worker in the long run than a big one, given, of course, that prices are not allowed to rise independently.

This article which sets out the position most clearly has been reprinted and is available, price 1d. per copy, from the Editor, *Business*, Mercury House, 109–119 Waterloo Road, London, S.E.1.

BACIE Debates School Leaving Age

"EDUCATION and training—and not only the education and training of the adult within industry, but the education of pupils and students at all ages—is the business of every responsible citizen and is, or should be, a very important part of the business conducted in the board rooms of industry and commerce."

This conviction was expressed by Mr. D. E. Woodbine Parish, chairman and managing director of *Holliday and Greenwood Ltd.*, in the opening speech of this year's BACIE annual conference. Although this was a personal view it was a faithful measure of the spirit with which over 200 delegates had assembled for two days at the College of Aeronautics, Cranfield. They included delegates from industry concerned with education, training, welfare and personnel, heads of further education establishments, delegates from local education authorities, and from youth and graduate employment organisations.

This year's conference theme posed the question: Should the school-leaving age be raised to 16 years—or would a greater contribution to the long-term needs of industry and commerce be made by the introduction of compulsory part-time education (one day a week) for all who leave school before reaching the age of 18, and which of these two educational developments should be given priority?

The large industrial attendance left no doubt as to how deeply this section concerned itself with the problem.

The two possible answers to the problem were enlarged respectively by Mr. F. A. Crofts, headmaster of a Sheffield secondary school, and Mr. R. S. Hutton, chief education officer, Southport—the latter putting the case for county colleges and day release classes. It was apparent from the subsequent discussion that many delegates were concerned with the immediate necessity of giving young prospective employees a solid grounding in basic arithmetical knowledge and the ability to express themselves clearly in speech and writing. This is a matter too often taken as read, yet a number of delegates reported disappointing experiences with many "C-streamers" from secondary modern schools, who had applied for jobs.

Discussion groups continued to explore the conference theme, and a lively debate on the question gave delegates from all sides an opportunity of expressing their views.

LIGHT, AIR AND NO DRAUGHTS

One of the sixteen design studios at **General Motors'** Technical Centre in Detroit. The Glasgow firm of **Thermotank Ltd.** had its air-conditioning system chosen for the building after all American methods had been considered.

Costly Pilgrimage

DURING 1955, an estimated 400 to 500 technical experts left Britain to undertake employment in Canada and many more chose the U.S. With Britain already dangerously short of scientists and technicians, this emigration can be ill-afforded and is a source of great concern to industrialists and Government alike. In the last few months, many agents have been sent over here by American companies to recruit executive and technical staff. One American concern has offered jobs to 200 draughtsmen at £53 a week, with salary increase every six months, fares paid and temporary housing provided. Many of these men would have been future executives and now they are lost to British industry. The salaries offered are, of course, a tremendous inducement to the migration of technical and executive staff. In addition, a single draughtsman on the salary mentioned would pay £6 a week less tax in America than in Britain. This factor makes the position offered even more attractive.

There is already more than enough restlessness in understaffed executive departments and this dollar incentive could not have come at a worse time for employers. It is true to say that many executives ask for more money and better positions than they are worth but, at the same time, British employers often try to get them for less than they are worth. Yet the employer must make the first move towards increasing the rewards of the executive otherwise many more who

are not expendable will be tempted away by the dollar bait. The dissatisfaction among executives can be gauged from the fact that one employment specialist has 2,500 people on his books seeking a change. Not all of them wish to go abroad, yet they would find some of the oversea offers difficult to refuse. **(London Chamber of Commerce Journal.)**

Valuable Air

THE biggest and fastest-growing efficiency booster is air conditioning. A nationwide survey of employees in cooled offices found 94 per cent believed air conditioning made work less tiring on hot days. For that matter, more than half of them thought that air conditioning made the boss more pleasant.

At that rate, the dispositions of bosses should improve greatly over the next ten years. Charles V. Fenn, vice-president of Carrier Corp., predicts that $10 billion worth of air conditioning will go into buildings and industrial plants during that period.

That much air conditioning should produce inestimable improvements in efficiency, too. The American Society of Heating and Ventilating Engineers conducted tests that showed an office worker's output dips 10 per cent when the temperature hits 85 degrees, 22 per cent at 90 degrees, 38 per cent at 95 degrees. **(Newsweek.)**

Top Award Won

BEFORE a large audience of employees taking their lunch-time break, the largest award ever won in *Vauxhall Motors*' suggestion scheme was recently presented to the joint winners. It is the first time that the £450 prize has been won since the maximum award was raised to this figure last March. From that date all awards of £10 and over have been made in National Savings Certificates.

The winners, Mr. Reuben Brown and Mr. Alfred Smith, are both employed in the truck final assembly line at the firm's Dunstable works and their composite suggestion has led to the simplification of brake assembly on the firm's *Bedford* trucks.

Before presenting the prizes the managing director, Mr. Philip W. Copelin, told the audience that this latest successful suggestion was but one of 17,423 which have come before the suggestions subcommittee, an offshoot of the works council, since the scheme began in 1942. The sub-committee deals with 50 every week and at its last meeting awards totalling £917 were approved—the highest figure yet in a single month. In the past fourteen years 5,413 suggestions have earned awards and the total prize money won amounts to over £26,000.

The firm hoped that the awards would encourage more employees to put suggestions forward since at present there was one chance in three of winning a prize.

Your Help is Needed

THE time approaches when once more executives will have to draw up Christmas card lists. Now then is a fitting time to give some publicity to the excellent work being done by the National Association for the Prevention of Tuberculosis and to place on record that its Christmas seals for 1956 are now on the market. These seals for letters and parcels are this year of exceptionally gay design and colour—the motif is children playing in the snow—and the Association is naturally anxious to sell as many as possible for they are an entirely voluntary body receiving no State aid or subsidy. The seals can be bought at 4s. per sheet of 100 from the Duchess of Portland, Chairman, National Association for the Prevention of Tuberculosis, Tavistock House North, London, W.C.1.

Redundancy Plan

A SCHEME of new and improved terms of employment has been introduced by *Ethicon Ltd.*, Edinburgh. Mr. L. A. Bailey, managing director, when introducing the scheme to the workers, said that if a management team cannot foresee its labour requirements sufficiently far ahead to avoid excessive redundancy from time to time, that should be reflected in the balance sheet of the company by adequate compensation of the workers.

Mr. Bailey also stressed the fact that no immediate redundancy was envisaged, and said that an improved labour relations policy, such as *Ethicon Ltd.* had adopted, could have avoided the recent unrest in the Midlands factories of *B.M.C.* and *Standard*. It was his view that this scheme would become universal in this country in the next few years.

Established employees—those with two years' maximum continuous service—would be entitled to four weeks' notice by the company but would retain their right to give one week's notice. About 75 per cent of the company's staff, which totals at present about 320, would be covered by the new scheme.

Muscles, Men, Machines

THERE have been three main periods in all this development, the age of human muscle power, the period when energy was provided by men and animals, and the latter period (only 150 years) when energy was supplied by mechanical or electrical power.

Everything we possess to-day, our food, clothing, culture and education depend on tools of one kind or another. In only 150 years the amount of energy supplied by man has dropped from 23 per cent to 4 per cent and that supplied by mechanical power has risen from 26 per cent to 94 per cent. Weekly hours of employment have dropped from around 70 hours to 40. How fortunate are we, who have in only 150 years reaped the fruits of a million years of plodding and experiment. There are still places in our planet where four bullocks and two men strive to cultivate the soil by primitive methods; their combined output a mere three horsepower by modern standards. **(The Brook.)**

Clearing Panel

THE Ministry of Labour's Special Aptitudes Scheme is now to be known as the Training Allowances Scheme. The former was originally instituted to provide young persons with financial assistance to undertake training for skilled industrial employment away from home when suitable facilities were not available in their home area. Their suitability for training is assessed by an advisory panel and to ensure that all applicants appear before the panel the Minister has decided that in future no applications under the scheme will be accepted from young persons who have already taken up employment for which financial assistance is required.

Workers' Houses

A PROGRAMME of international co-operation to encourage the building of workers' houses in O.E.E.C. countries was drawn up at a recent meeting held at the Château de la Muette. Delegates of the European Regional Organisation of the International Confederation of Free Trade Unions and housing experts from national free trade unions took part in this meeting, at which the European Productivity Agency was represented. The programme, which provides among other things for the creation of trade-union building co-operatives, will be carried out in three stages:

In the first stage, the free trade unions of each participating country will draw up general reports on the situation with regard to workers' housing. On the basis of these reports, trade-unionists from countries which are not so advanced in this respect will visit countries which have developed workers' housing schemes on a fairly wide scale, in order to determine what help they could obtain.

In the second stage, teams of trade-unionists, technicians in building and housing co-operatives, will visit these less advanced countries. They will study, with the local trade unions, ways and means of developing workers' housing schemes and building co-operatives.

Before entering on the third stage, the E.P.A. will arrange a seminar to study the possibility of launching pilot projects for co-operative building and to consider the application of productivity techniques, e.g. modular co-ordination, in these pilot projects. Following this seminar, the services of technicians will be made available to the new co-operatives to assist them in their initial operations.

How We Changed an Incentive Scheme

By WINSTON CLEWES

who has spent 33 years with **Crosse & Blackwell, Ltd.,** the last 25 in charge of work study, organisation and methods. He is also well known as a writer of novels, plays and radio and television scripts. His best known novels are "The Violent Friends", "Journey Into Spring" and "Man At Work".

The following case history takes us through the reasons why and the methods whereby a certain incentive scheme was changed. The work involved was considerable but the author has no doubt that it was more than worth it. To-day, he stresses, the correct method is through consultation with the work-people; for it is vital that not only should justice be done but should be *seen* to be done.

A GROUP discussion at last year's British Institute of Management conference at Harrogate more or less unanimously agreed that the major cause of friction in the works, much more often than not, was bonus or piece-work. Where that or anything like it is the case, can one really call bonus an incentive at all? Indeed, is it not rather to be classed among the *dis*incentives?

And if it, or any part of it, can be so classed, then is that not sufficient reason for changing one's methods? It is one of the two possible reasons now offered to you: that the existence of a scheme, based though it may be on work study of the highest quality, is just not producing anything like the result one ought to be requiring of it: something, that is, approaching optimum productivity. The other, quite simply, is that the present scheme may have been in existence too long; that the people to whom it is applied, *and* factory management, take it for granted, and are bored with it. A little re-thinking is always a good thing.

There is more than one way of changing an incentive scheme. The right way, today, is by consultation, as I hope to illustrate by the particular case I am going to describe. (It is not suggested, of course, that the steps taken in this case would apply to all cases or that they exhaust the possibilities.)

First, a complete review of the situation was prepared for top management, and agreement obtained to this. It was then discussed with factory departmental management and, as nearly as possible simultaneously, the factory Foremen's Committee and the shop stewards of the union concerned were also approached.

At these two meetings, points were made in identical terms as follows:

To open the ball, it was suggested that the operation of the bonus scheme left much to be desired. Agreement having been obtained, the question was put: Why this agreement? What were the reasons for it? It was then proposed, as a basis for argument, that the answer might be summed up under four headings:—

(*a*) That the operation of the system and the calculation of bonus was not understood by those to whom it was applied.

(*b*) That it resulted in inequitable variations in earnings as between person and person and as between the same person's earnings week by week.

(*c*) That in these circumstances the competitive element in the system was likely to set operator against operator and create endless and unnecessary friction.

(*d*) That it resulted in changes in group personnel which in theory could be justified as economies but which in practice were, again, productive of so much friction and dissatisfaction as to make it extremely difficult to claim that economies did in fact result.

The four points were then dealt with individually with a view to reaching some agreement as to what was necessary to rectify them, and at this stage it was pointed out that, throughout any discussions which might arise from consideration of the problem, the main objective should be kept clearly in view: that is to say, that what management was trying to do was in fact to produce a greater spirit of co-operation and loyalty to the company, and a greater sense of effort towards a common end, than already existed.

This being the case, it was absolutely essential that negotiations should proceed, right from the beginning, on a basis of reaching *full agreement, not compromise agreement*, between the department concerned and management. Nothing should be taken as implying that it was management's intention eventually to impose any

scheme irrespective of anyone else's views.

Management's impression of what the answer should be to each of the four points specified as being responsible for the shortcomings of the bonus system was then outlined, as under:—

First, to simplify the whole method—that is to say, to simplify its presentation to those working under it. Here it was emphasised that a factory is a highly complex organism and the figures on which any bonus scheme is based cannot be anything other than complex. This, however, need not affect its presentation.

Second, to standardise earnings (with sanctions against any drop in productivity).

Third, to cover job inequalities by a simplified system of basic rates, and

Fourth, to foster group spirit by going to the practicable limits of carrying a standard establishment in each department.

In talking to the shop stewards special emphasis was laid on the fact that a system on the lines envisaged would, in practice, throw responsibility on to the workpeople for the maintenance of output levels, and that it was in essence a practicable form of worker participation.

It was also emphasised that levelling off to a standard bonus payment might conceivably, in a short-term view, affect the earnings of a small number of the most highly paid workers, but that in management's opinion this was a fair exchange for what amounted to a guaranteed wage, and, in any case, management's intention was not to reduce earnings.

To summarise so far. At this point a system of payment had been agreed upon which would by definition maintain average earnings in return for average production. It was guaranteed that, whatever the final conclusions, no individual would lose by the new scheme. The question of overtime was excluded from the general scheme to be dealt with as a separate item.

Panel Set Up

The next stage, then, was to set up a panel in which the shape of the bonus scheme could be hammered out, a panel composed of shop stewards, plus the local area organiser of the union sitting as a full member of the panel with voting power; plus management representatives; plus members of the work study department; the numerical balance being left deliberately on the workpeople's side.

The panel's terms of reference were laid down, the key point being that all discussion should be privileged, and completely free and open, with no punches pulled on either side. Principles were to be worked out and later applied to the thorny questions of job evaluation, production targets, personnel requirements, and especially to the problem of agreed overtime specifications.

The meetings began rather quietly with members, particularly on the workers' side, being a little diffident in expressing their views and perhaps more than a little suspicious of the whole business. Throughout the series, however, the policy of the management was to be scrupulously honest in intention and straightforward in expression, and to gloss over no difficulties at all; and in these circumstances the diffidence quickly disappeared and the suspicion decreased.

The final scheme in each department provided first for a fixed number of people, settled before the commencement of the week for each week, against the manufacturing programme for the week. This was, of course, calculated on complete work study data; and the final number included an absentee cover based on previous experience, the object of which was to ensure the integration of the department as one group for the whole of the week. The work study on such things as service and cleaning (done in overtime and consequently a very sticky point) was performed jointly by a team of foreman, shop steward and studyman using where possible the department clock in preference to the stopwatch.

Second, it was laid down that every member of the department present for a full week should be guaranteed his or her week's wage (providing there were no absence during the week) before the week began, irrespective of production; and this same figure, the basic evaluated rate plus a fixed percentage expressed in terms of pence for 1s. should run for a minimum of four weeks at a time.

Behind this was a long-term productivity target based solely in a mechanised department on net average machine running times over a very long period, irrespective of type of production or machine speeds, and expressed as a twelve-monthly running average recalculated monthly. If the twelve-monthly running average remained within a certain band—

(Continued on page 274)

6 Steps to a New Incentive Scheme

1. *Consult your workpeople wherever possible.*
2. *See that they understand how the bonus system is calculated*
3. *From the very beginning strive for full agreement, not compromise.*
4. *Emphasise that the success of the scheme depends on the workpeople themselves.*
5. *In discussion do not gloss over snags and difficulties.*
6. *Make it clear that subject to works rules the week's basic wage is in any event guaranteed.*

What is the Role of a Modern Executive?

Good Subordinates or Far-sighted Policies?

I AM still receiving letters about the qualifications and education needed by an industrial executive. Mr. E. G. Bye, of Pontypridd, Glamorgan, Wales, claims that "firms cannot instil culture by intensive courses". Thus he does not agree with the policy of sending executives to a course in general education as favoured by Mr. Bridges, of *T. Wall & Son Ltd.*, and as the *Bell Telephone Co.* are doing (see the May issue of this journal). He says that a sabbatical year should be spent in "resting, retiring for a time", in "getting a bird's eye view of myself" and in "giving myself an overhaul".

"In an executive", he says, "the desired 'end product' must be a wide outlook and understanding, coupled with practical knowledge of his specific industry. The ultimate end in very large organisations is a director who, while not necessarily an expert in the individual skills of his industry, has a wide outlook, vision, understanding. The way to add to the efficiency of the 'technical' man is to encourage a wide reading and an 'enquiring mind' on other subjects than the technical ones; not to 'instil culture' by a rapid course, or a short period on the classics, which will necessarily be ill-digested and will certainly not result in culture."

Speaking of his own experience Mr. Bye goes on to say: "I was not, and am not, a student of the classics, but have a catholic taste in reading, and among other things find that a study of economics, economic history and the several religions, do much to promote understanding."

This letter contains a number of points with which many people will agree though I doubt whether there would be general agreement with Mr. Bye's prescription for spending sabbatical leave. Discussion is difficult because there is no generally accepted view of just what qualifications the chief industrial executive should have. These qualifications must be determined, in the last analysis, by the role the industrial executive is called upon to play in his daily work. We are yet far from certain what the precise nature of that role is going to be in the years that lie ahead.

Let us look for a moment at the roles which have been attributed to the chief executive in current discussion. There are many different views as to what his prime function should be. Chester Barnard sees one of the main aspects of his work as that of co-ordinating people and processes (many of the latter having been initiated lower down the line). His job is to ensure that the complex social system under his leadership remains in a healthy state. Two highly intelligent and senior administrators working in the field of public administration have taken very different views of this main function. One says that a wise and far-sighted policy will be the natural outcome if you pick men of vision and capacity (such as Mr. Bye describes). Thus he sees one of the main jobs of the chief executive to be that of selecting the right kind of people to be his subordinates. The second administrator has taken an entirely different point of view. He believes that the important thing is for top management to lay down wise and far-sighted policies. Then it does not matter very much what kind of subordinates are employed to carry the policy out.

An American company president, Mr. Robert C. Hood, of *Ansul Chemical Company*, Wisconsin, who has received a lot of attention recently for his management practice, has shown by his actions that he is in broad agreement with the views of Chester Barnard and of the first administrator whom I have just quoted. He has been experimenting with a kind of management which he calls "participative management". Each manager, he says, "is held solely responsible for making decisions"—but these decisions are based on a common pooling of ideas and problems at a series of meetings. Thus Hood's own office was converted into a comfortable sitting room where his managers were encouraged to meet. He felt that the big desk he had inherited from his father and elder brother might be an inhibiting factor, so he threw it out. Managers were then encouraged to call a meeting when they wished and to invite others to participate. Mr. Hood believes these methods he is trying out will both release the potential creative abilities of his subordinates and (most important to him) enable them to grow and develop as people.

STAGNANT ENERGIES

Have We Become Soft?

MR. BRIAN ANTHONY has written to me to say that he agrees with Mr. Alan Bird (whose letter I quoted in the July issue of this journal) that one of the needs

Are We Really Soft?

This month DISCUSSION LEADER deals with an issue about which there has been much talk of late. Namely, as a nation are we going soft? The rock 'n' roll excesses, Liberace idolatry, asinine industrial disputes—are these but isolated idiocies that could happen anywhere at any time, or are they symptoms of a general sickness? If the latter, what can industry do about it? We ask readers' views on this vital topic and as usual a guinea will be paid for each letter published.

underlying these and similar questions is "a rediscovery of faith". He says: "There is truth in Mr. Alan Bird's assertion that we need a rediscovery of faith. I agree; basically we are better folk in a communal sense than we were, but we have come to a stop—we are not 'going places' any more; our energies have flowed into a stagnant pool. Formerly, a sufficient number of us had positive ethical aspirations which maintained the people's forward movement. Welfare minded, we have absorbed the idea of responsibility for being 'our brother's keeper'. Having, as it were, arrived, we have become soft as a consequence of fairly long maintenance of a more evenly shared prosperity. We are nullifying advantages accruing from having more money to spend by our inability to spend it wisely." He goes on to say: "Let's have an ethical finger-post to indicate our direction of travel. It will be hard slogging to get our inert mass out of the 'Slough of Despond' in which we seem to be bogged. But we shall catch another glimpse of a 'promised land' which will not be brought one step nearer by the pressing of ten thousand automation buttons. You want to know what I am doing about it. I'm talking to new entrant apprentices. I'm trying to inculcate a new purposefulness in their following of the crafts. I'm putting emphasis on the business of living and giving rather than on getting. I'm attempting to reverse the normal by getting the young to set an example to the older. And I feel we make some progress. More hands to the plough and we'll be out of the slough."

Do you agree with Mr. Anthony that we have "arrived" at one goal and become "soft" and that we need the stimulus of a new faith? In what? The road ahead is unfamiliar and new and perhaps we need pioneers—both thinkers and practical men—to go on ahead and mark out some trails.

As a footnote to the subject of August's discussion—the position of shop stewards in the factory—I notice that the managing director of the *Standard Motor Company* recently said that the company had tended to use the shop stewards "too much" as the channel of communication with the men. "In future", he said, "we must strengthen and we must broaden the direct lines of communication so that the employees hear continuously—not just occasionally—the management's views."

DISCUSSION LEADER

A Practical Guide to the Factories Acts—6

Welfare and Hours of Work

By V. A. BROADHURST

This article concludes our series. Today we are on the threshold of the atomic age and new legislation for people at work is going to be needed. Even so, says the author, it is remarkable how the present Acts, framed 20 years ago, are appropriate to present conditions.

DURING the last war a case was recorded of a factory operative being turned off a special workers' bus because "he was too clean to be a worker". This attitude of mind is dying, fortunately, but the truth is that the Factories Act is not yet fully complied with as far as washing facilities are concerned.

The law requires that there shall be provided and maintained for the use of employed persons adequate and suitable facilities for washing and that these shall include soap and clean towels or other suitable means of cleaning or drying. Further, the facilities shall be conveniently accessible and shall be kept in a clean and orderly condition.

This new foundry washroom with a colour scheme of blue and pink at the Warwick works of **Thomas de la Rue & Co. Ltd.** is one example of a firm improving on the minimum standards laid down in the Acts.

What is and what is not "adequate" depends on the circumstances of the case. In certain trades where there is a risk to health a minimum standard of one wash-basin for every five persons employed is laid down by Regulations. But for the general run of industry, not subject to Regulations and offering no special health risk, an acceptable working standard is one suitable wash-basin for every twenty persons employed. Where fewer than twenty persons are employed, one basin is required to comply with this standard—which is a minimum one.

A supply of drinking water from a public main or other approved source should be provided at conveniently accessible points in the factory. The District Inspector of Factories has power to direct that the supply shall be marked "Drinking Water". (Cases are on record of factory workers taking a drink from unmarked taps which turned out to contain caustic liquor for chemical processes.)

The standards for first aid required in factories varies as not only the 1937 Act but a number of Regulations and Welfare Orders lay down requirements for first aid. Again the general run of industry has to comply with the standards in the Act, supplemented by the First Aid in Factories Order. One first aid box of the appropriate standard suffices for up to 150 persons. The necessary minimum contents of the box are laid down in the First Aid Order just mentioned which, of course, makes fewer demands for the very small factory. Where an Ambulance

Room is provided there is no automatic exemption from these requirements. In such cases the firm is at liberty to apply to the Chief Inspector of Factories for a certificate of exemption.

Suitable accommodation for outdoor clothing is required. In some cases accommodation is also needed for protective clothing used by workpeople. The standard generally is that the facilities shall be adequate and suitable. Sometimes forgotten is the very important requirement that there shall be arrangements for drying the clothing. In view of the climate of this country, this means a lot to persons employed—and not only in winter.

On the question of seating a lot of doubt and misunderstanding still arises. The legal requirements changed as recently as October, 1950. The position now is that there are two main requirements and there is no longer any differentiation between men and women in either of the legal demands. The first requirement is that suitable facilities for sitting shall be provided for all employees who have in the course of their work reasonable opportunities for sitting without detriment to their work. This is the so-called "occasional" seating. The second requirement is that suitably designed seats and foot rests shall be provided for every employed person if a substantial proportion of his or her work *can* be done sitting. A lot more remains for industry to do under both these headings.

The legal demands relating to canteens and feeding facilities are now of a limited character. In certain industries such as sugar, canteens or messrooms are required under Welfare Orders. Similarly, facilities are needed in the jute industry and other industries by Special Regulations. Also, in any factory where poisonous substances are used so as to give rise to dust or fume, facilities for eating and drinking away from the room or rooms concerned are required. An instance is the dry rubbing down of a lead-painted surface in a factory.

Medical Supervision

Another matter which comes under the general heading of "Welfare" is medical supervision in industry. In many cases there is a works medical service independent of legal requirements, of course. In some cases there is an overlapping between the statutory medical service and the non-statutory. It may be worth while enumerating the various headings under which medical supervision has to be provided in industry.

The commonest case is the annual examination of young persons by the Appointed Factory Doctor. This examination is necessary, of course, for all young persons under eighteen years of age; it is required within fourteen days of first employment and subsequently every year until the age of eighteen is attained. Another well-known type of medical examination is the kind laid down in certain trades which have a special health risk. Examples may be drawn from trades where lead dust or fume is given off, mineral oil handled or chrome compounds used. At varying intervals, the persons employed in certain processes have to undergo a medical examination.

In addition there are other cases of medical supervision required by the Act or Regulations. An important case is the six-monthly examination of male young persons of sixteen and over who are employed in shifts in the paper industry and certain other trades. These are all industries which are carried on continuously by day and night. These youths are allowed to work shifts, including night shifts, under certain conditions. One of the stipulations is that they shall be examined every six months by the Appointed Factory Doctor and certified fit by him.

One of the common risks to health in a great number of industries to-day arises from the carrying of excessive weights. The Factories Act, 1937, contains a clause designed to protect young persons from injury from this cause. It lays down that a young person shall not be employed to *lift, carry or move* any load so heavy as to be likely to cause injury to him. Personnel officers and others concerned with the welfare of young workers could do some useful work in their own factories by checking the handling of heavy loads by young people.

Many older people, particularly men, also suffer injury every year from lifting or handling excessively weighty loads. Adults are not so well protected by statute in this respect as are young people. Nevertheless, in the woollen industry, for example, maximum weights which adults as well as young persons are permitted to lift are laid down.

HOURS OF WORK—4 POINTS TO REMEMBER

1. **Every factory should display a notice setting out the statutory permissible hours of work.**
2. **Hours of work for men are not limited by the Factories Acts.**
3. **No person of fifteen can work overtime in any factory.**
4. **Overtime for women and young persons must not exceed 100 hours in any calendar year nor six hours in any week.**

Hours of Work

In every factory there should be a notice in the statutory form, setting out the permissible hours of work for women and young persons employed. The completion of this notice often presents difficulties of one sort or another.

The first point to remember is that this notice indicates the *permissible* hours—the limits within which persons may be employed.

The hours of work of men are not limited by the Factories Acts and consequently the notice does not concern them. It is the working hours of women and young persons which have to be posted up on the notice.

These "protected persons", i.e., women and young persons, must not be employed outside the period stated on the notice except when employed on such overtime as the Act allows. *The law does not allow a young person of fifteen to work overtime in any factory.*

The most advantageous way of completing the notice of hours of work is to enter the maximum hours allowed by law although, of course, these maximum hours need not be fully worked. The notice could be filled up to show the net hours for women and young persons of sixteen and over as 48 hours in the week. This is the normal maximum. For youngsters of fifteen, 44 hours is the maximum.

In planning the time table it is important to ensure that the lengths of the spells of work, the intervals and the total daily hours all comply with the terms of the Factories Act as well.

Any employment beyond the periods stated on the notice is legal overtime and must be notified to the District Inspector of Factories. The Act

(*Continued on page 284*)

Profit Sharing Salesmanship

EMPLOYEES who work for the growing number of profit sharing companies in the United States are very much in favour of their profit sharing plans, but large segments of management feel that they are not doing a satisfactory job of getting the profit sharing idea across. This is the finding of a new research study just released by the Profit Sharing Research Foundation of Evanston, Illinois, titled *Succeeding With Profit Sharing*.

According to Mr. J. J. Jehring, the Director of the Foundation, who conducted the study, there is definite evidence that the success of the profit sharing plan depends upon the success which management has had in communicating the ideas embodied in the profit sharing concept.

Mr. Jehring found that talking to the employees by top management was the most effective means of getting the profit sharing idea across to the employees; written and visual communications, though useful, were not as important as oral communications. He also discovered that the use of the foreman was generally not a good method for reaching the employee with profit sharing information. Employees preferred to look to top management for profit sharing information, not to their foreman.

The study also indicated that employees tended to establish special communication channels among themselves for passing around information on profit sharing, and that they made extensive use of such channels.

There were a number of important findings in the study which may be of help to profit sharing companies. Some of these were:

1. The superiority of oral communications over written or visual communications for getting the profit sharing idea across.
2. The importance of direct communication between top management and the employees concerning profit sharing matters.
3. The establishment of special channels of communication by the employees for exchanging profit sharing information.
4. The lack of effectiveness of the foreman in profit sharing communication.
5. The considerable amount of communication about profit sharing which goes on among the employees.
6. The close relationship between the successful communication programme and the successful profit sharing plan.

Plans for the Future

THE Nuffield Foundation has made a grant of £2,500 over two years to Birkbeck College, University of London, to support the work begun three years ago by Professor C. A. Mace, into the long-term aspirations of boys and girls leaving school and starting work. Three groups of school leavers from grammar, modern and technical schools were selected for comparison. But as the enquiry got under way, it seemed less important to find out the extent to which young people plan ahead than the kind of motives they have in choosing their jobs.

It is hoped to find the answers to some of the wider questions now being discussed in schools and factories and in the press: whether the chief occupations are getting a fair share of recruits who have gone into the job for the right reasons; whether there is a lack of balance caused by a drift to "white collar" occupations and certain professions; and whether the reasons for any such drift are to be found in the home, in the schools, or elsewhere. Information will also be obtained on the extent of the drift from country to town jobs and from the north to the south of the country.

The new machine shop devoted exclusively to apprentice training at G.E.C.'s Witton Engineering Works. 5,500 square feet in area, it is equipped with a selection of the most modern types of machine tools. Apart from this training it also helps to provide an additional post-apprenticeship refresher course for machinists returning from National Service.

The Best Policy

INJURIES sustained by employees during working hours is an unpleasant subject for all concerned, especially where litigation is introduced to determine liability and the payment of compensation. But when the question of insurance arises, the workings of the human mind can introduce aspects which are not without a certain alleviating humour, as America's "Newsweek" showed recently in an article on Hollywood stuntmen.

"The insurance companies, which once wouldn't hear of issuing coverage to stuntmen, have recently reversed their stand. The stuntmen know their policies, too. Director John Ford cites an incident that occurred while filming 'The Searchers' . . .

" 'We were doing a scene on the border of Arizona and Utah,' Ford relates. 'One of the boys was hurt doing a horse stunt on the Utah side. Since Arizona has better insurance laws, some of his buddies considerately dragged him over the line into Arizona so he could get more insurance money.' "

New Wages Council

THE Minister of Labour and National Service has made an Order establishing a Wages Council for the Rubber Proofed Garment Making Industry. This is in accordance with the recommendation of a Commission of Inquiry set up in 1955. The new Council will cover all workers employed in Great Britain in manufacturing, altering, repairing, renovating or remaking rubber proofed garments (including garments made from textiles processed with rubber substitute), and in incidental work. It will not affect workers engaged in the manufacture of garments from oil or chemically proofed fabric or from plastic film or textiles processed with plastic.

Young employees of the **Triplex Safety Glass Company** test out the lounge of their firm's new sports pavilion at King's Norton opened recently by the chairman, Sir Graham Cunningham. Another improvement was the renovation of the playing fields.

Workers' Priorities

CONDITIONS of work, better pension schemes and long-term contracts are top priorities with Britain's workers and come before actual earnings, according to a *News Chronicle* Gallup Poll taken a few weeks ago. Only about one worker in five of those questioned complained about being poorly paid, but only one worker in six was satisfied with working conditions.

Higher wages, in fact, came fourth in a list of eight priorities after which came profit-sharing schemes, compensation for dismissal, participation in management and, last, shorter working hours. It was also discovered that out of every 10 workers only four expect to be affected by automation. But a year ago only one in every 10 union members claimed to have any idea of what was meant by automation. Today, 97 per cent. have heard of it and 65 per cent. are prepared to define it.

Revised Career

A revised edition of "The Physiotherapist", the booklet in the M.o.L. Choice of Careers series issued by the Central Youth Employment Executive, is now available. The title has been changed to include the "Remedial Gymnast."

Welding Economy

THE British Welding Research Association is now preparing a comprehensive handbook on achieving economy in production costs by using the welding process on work where top-grade quality is demanded. This is made possible by the use of non-destructive testing, principally radiography.

The handbook will be issued as a series of booklets and the first of these has now been published under the title *Photographic Aspects of Weld Photography*.

Each booklet is made to fit a special binder to take the complete work. Copies of the booklets can be had from the Association at 29 Park Crescent, London, W.1.

APPOINTMENTS . . .

The British Institute of Management announces the election of **MR. JOHN RYAN, C.B.E., M.C.**, and **MR. H. V. STAMMERS, D.F.C.**, as its vice-chairmen. They will assist **MR. H. WILMOT, C.B.E.**, chairman and managing director of *Beyer, Peacock and Co. Ltd.*, who was recently elected as chairman of the Council. Mr. John Ryan is vice-chairman of the *Metal Box Company Limited* and a part-time member of the British Transport Commission. Mr. H. V. Stammers is deputy chairman of the *British Tabulating Company Limited*.

BRIGADIER A. L. W. NEWTH, C.B.E., D.S.O., M.C., T.D., D.L., J.P., has been appointed chairman of the South Western Regional Board for Industry in succession to **COLONEL MARK WHITWILL, C.B.E., D.S.O., M.C., T.D.** Brigadier Newth, who is managing director of *Charles Newth & Sons Ltd.*, was a member of the Bristol and Bath District Advisory Committee of the board from 1946 to 1948, and chairman until 1950.

MR. J. W. ELDRIDGE has been appointed to the post of Midlands Regional Controller of the Ministry of Labour and National Service. Until recently Mr. Eldridge was deputy to **MR. W. E. DAVIS** who has retired after 45 years' service.

How We Changed An Incentive Scheme

(Continued from page 269)

between X hours/minutes and Y hours/minutes—the percentage added to the basic rate, announced in the first instance as 4d. in the 1s., would remain indefinitely. If, on the other hand, at the end of a month the twelve-monthly running average were found to have dropped into the band below, then the gross pay would be reduced proportionately. This sanction having been previously agreed, to be fair it was clear that the provision should also operate in the reverse direction; in other words, if at the end of a monthly period the twelve-monthly running average should be found to have *increased*, and moved into the next band, then the gross pay would increase proportionately. The bands themselves were so planned as to make any increase or decrease equate ½d. in the 1s. in terms of the basic rate.

The discussions so briefly outlined above resulted in a scheme, which, in the first departments applied, has not only maintained productivity at its previous steady level, but has rather surprisingly increased it by an average of 6 per cent. What exactly this is due to, which element of the new approach—the joint consultative method with which it has been put in; the security of wage or tenure; the simplification of the system from the point of view of worker understanding; or any of the ancillary measures with which there has been no space to deal (such as the creation of a grade of established worker, i.e., a person whose *right* it is to remain in his own department), it is difficult to say.

That attitudes surveys, before and after the change, show a mathematical reversal of the proportions of satisfied and dissatisfied people in the departments, there is no doubt. That queries hour by hour, day by day, regarding bonus earnings in the applied departments have completely vanished, and that at the same time clerical work has been enormously reduced, there is also no doubt.

And finally, there is no doubt at all in the writer's mind that all the time and work involved, which was very considerable, has paid and will pay dividends, in all sorts of directions quite other than those one normally expects from the mere application of an incentive scheme.

A Simple Stock Control System for the Small Canteen

Food bills in small canteens often are unduly high. Where this occurs, waste and pilferage are generally responsible. Here we show how these can be effectively checked by adopting a few simple ideas and methods.

IT is unlikely that the larger canteens need any advice on the subject of stock control for their affairs would soon become chaotic without a reasonably efficient system of keeping records. The necessity for keeping records is not always so well appreciated in the smaller canteens and because of this managements are sometimes caused anxiety by what appear to be excessive amounts spent on food. And while it is appreciated that a canteen manageress may well be already overburdened with the day-to-day problems in the running of the canteen, certain basic requirements must be met in this matter of stock control if efficiency is to be maintained.

The plea that there just is not enough time in the small canteen for the manageress to keep records of stock is futile. Stock is money, and the same care should be exercised in accounting for the receipt and issue of stock as is necessary in accounting for the receipt and expenditure of cash. Records can be simplified to suit individual needs, thereby reducing the time spent on keeping them. In brief, the manageress should keep records to show what has been ordered, what has actually been received, what has been returned and what has been issued. From these records it will be possible to deduce what remains in stock.

The first requirement is that of a *Duplicate Order Book* which should supply information on to whom the order was given and on what date, whether the order was given verbally, sent by post or by telephone. In ordering always state in detail details of quantity, quality and type of packaging where appropriate. If, for example, a case of baked beans is needed then order "One case baked beans (6×10)" if that is the suitable size. This adherence to detail regarding sizes and packing helps the supplier besides ensuring that one gets exactly what was intended. Orders should be given in good time so that delivery can be made in time for use. If, for some reason or other, an order is not sent out after being written then it should be marked cancelled in large block letters.

Secondly, there is the *Goods Received Book* in which is entered all the commodities received with details of supplier and the date received. This record permits checking with

By L. BANHAM, A.M.H.C.I.

invoices and shows what goods have actually been received as against those actually ordered. In the case of the smaller canteen it may be more expedient to combine the function of this book by using a combined form of order book and goods-received book.

A *Returns Book* should be kept to show the goods and empties returned to suppliers and this record should be in duplicate, one copy for accounts and one copy to accompany the goods to be returned. Chargeable containers need to be watched; slackness in this direction can mean unnecessary loss of income for they are in themselves a form of stock.

A *Stores Issue Book* should be kept to show what items of stock and in what quantity have been issued each day. Again, in the case of the smaller canteen, it is often better to use a *Menu and Issue Book* which will show what dishes have to be made and what stock will be required to meet the menu, while an additional column might be used to indicate the cost of the items used and thus indicate from day to day what is being spent on food. Once the matter of having a record of the goods actually received, goods returned, and issues made has been settled, then it is possible to make a periodical check of stock by physical stock-taking and to supplement this by spot checks of individual items at suitable intervals.

Precision in regard to issues is most important and such items as tea, sugar, fats, flour and custard powder, cornflour and the like need to be weighed out before issue. To allow items like flour, custard powder and sugar to be looked upon as expendable is extravagant. The better trained the manageress the more able will she be to assess what is reasonable to use for any given dish, but often enough the cooks in small canteens think that they are more capable than they really are and misguidedly think that accurate measuring can always be done with the eye alone. This point can easily be proved by asking any two cooks to take from stock what custard powder they think sufficient to make 6 pints of custard without first weighing the powder. Accuracy makes for efficiency and for standardisation in resultant quality.

The purpose of keeping records is to be able to ascertain, first, whether all the goods have been received as per the supplier's invoice, and, second, that there should be some evidence as to how the goods have been used. Records, properly kept, will show how

4 Stock Checkpoints

1. *Keep simple records of what has been ordered, received, returned and issued.*
2. *Be precise about issues of fats, flour, sugar, tea, etc. —weigh these first.*
3. *Keep the store room locked —prevention is better than detection.*
4. *Keep an eye on the swill bin—it is the barometer of a canteen's efficiency.*

much of each commodity was used on any particular day and make it possible to say how much should remain in stock.

Should physical stocktaking show up any unduly high shortages in stock then regard must be paid to the system of storekeeping and issuing. Obviously the store-room door should be kept locked and the cleaning of the room should be done under supervision. It is easier to deny opportunity than it is to trace missing stock. Spot checks can be made of items other than food at appropriate intervals. In this way it is possible to keep a watchful eye on items like crockery, cutlery and tableware and the like. An ordinary exercise book can be ruled out with suitable headings with one column showing the items held and subsequent columns to record the initial stock, additions to and losses from, with dates of making the spot check.

Some firms find that their expenditure on cleaning materials is unduly high in relation to the gross turnover. Extravagance in the use of cleaning materials should be guarded against and the amounts which the canteen uses from month to month should not vary appreciably. There is then a case for noting the amount of cleaning materials which is used each month.

The unused and probably no longer saleable titbits of food sometimes become a headache for the manageress. There are always those who wish to take home titbits for domestic pets. This practice is one that will inevitably lead to trouble. It is odd to note how discerning the cats and dogs become after a time. There is also the creation of the element of jealousy between members of the staff. The remedy lies in treating all staff alike—that is, not at all.

If stock begins its life in the store-room, some of it will end in the swill-bin. If the amount so disposed of increases without a relatively high increase in turnover then all is not well. The reduction of waste in the preparation of dishes is an essential part of the control of stock. The swill-tub is the barometer of the canteen's efficiency.

Cigarettes should be accounted for daily and checked against the money received from their sales. The receipt and issue of cigarettes is probably best regulated by the use of *Bin Stock Cards* for each particular brand.

The more efficient the system of stock control the less opportunity there is for losses due to negligence or to petty pilfering. Among canteen staffs as in other fields of the catering industry there are those who will pilfer foodstuffs if given the slightest chance to do so. What to some people might be common theft is often enough regarded by certain others as legitimate "perks". Whether or not we are horrified by such an attitude of mind is of no importance—what is of importance is to bear in mind that certain staff will, if given the opportunity, succumb to the temptation to supplement their personal incomes by pilfering. A tight control of the stock will reduce the possibility of losses by pilfering in the canteen. Remember that the canteen staff are paid their appropriate wages and receive their meals free when on duty so there is no excuse whatever for the practice.

CANTEEN ADVICE BUREAU

Potato Bins

We have a small canteen handling some 30/40 meals per day and desire to obtain a bin or container for potatoes to hold sufficient quantity for this catering.

We have in mind a type which, when the lid is pulled out from the front, operates on a pivot and the container has a perforated lining to allow soil residue to drip into a collecting tray at the bottom.

Can you furnish us with manufacturers' names and addresses covering this particular commodity? (P. A. R., Whitehaven.)

WE have tried in vain to locate the manufacturer of a potato storage bin of the type which you describe.

We would recommend, however, that in a canteen of your size it would probably be equally as practicable and possibly cheaper to buy an ordinary galvanised dust-bin and a riddle of suitable size to fit snugly within it.

It is likely that you use about a cwt. sack per week and this arrangement would permit of a weekly clearing and cleaning of the bin.

How Much per Head?

We are somewhat concerned about the excessive amounts of general canteen commodities which are being expended in our canteen kitchen. We should be very grateful if you could advise us if there is any publication which would detail the appropriate amounts of food-stuffs, etc., which should be consumed per head. It is believed that at one time the Industrial Welfare Society published some such document but the undersigned cannot remember the exact details. It would be appreciated (a) *if you could advise us on the quantities usually expended, or* (b) *where such literature may be obtained dealing with canteen supplies and their proportions.* (R. A. E., Holloway.)

IN reply to your query expenditure of canteen commodities we have pleasure in forwarding to you under separate cover some literature from our library. We should be grateful for the return of the books at your convenience.

We feel that it might be better for us to know in more precise detail the nature of your troubles. If we knew, for example, the ratios involved in your food costs, i.e., how much spent on meat, fish, grocery and on greengrocery; and what kind of menu you have; and what scale of charges you adopt, then we might possibly be able to make the appropriate recommendations.

Added to these requirements it would be also necessary to know the numbers served, the canteen staff employed and the system of ordering and of stock control.

Very many thanks for your enquiry and we trust to hear from you again soon.

READERS PLEASE NOTE!

Our canteen advice bureau is a special service for all subscribers to our journal and we cordially invite you to seek the bureau's help in any catering problems that may crop up at your works. In the past we have been able to put many readers in touch with various sources of supply and equipment as well as make practical recommendations.

Model Canteen

THE new, model canteen at the Marchwood generating station of *C.E.A. Southern Division* has been designed to provide lunchtime facilities for 300 staff. The kitchen of this glass faced cafeteria has its main cooking equipment grouped in a centre island comprising two 7 cu. ft. ovens, a 6 cu. ft. steaming oven, a boiling table, one 10-gallon and two 20-gallon vegetable boilers, and considerable hot-plate area. At one end of the kitchen are the various stores including cold room, and, at the other, the main service counter, while on either side are the preparation and wash-up bays, and senior staff room.

Apart from the canteen, sub-kitchens have been supplied at various points in the generating station to provide night staff with facilities for cooking their own snacks. Each of these is equipped with a plain top hot cupboard, a domestic cooker, a 3 cu. ft. refrigerator, a 3 pint super-speed kettle and a 1½ gallon non-pressure water heater. The auxiliary boiler house and transfer pump house and gate house of the station have also been supplied with kettles and junior cookers.

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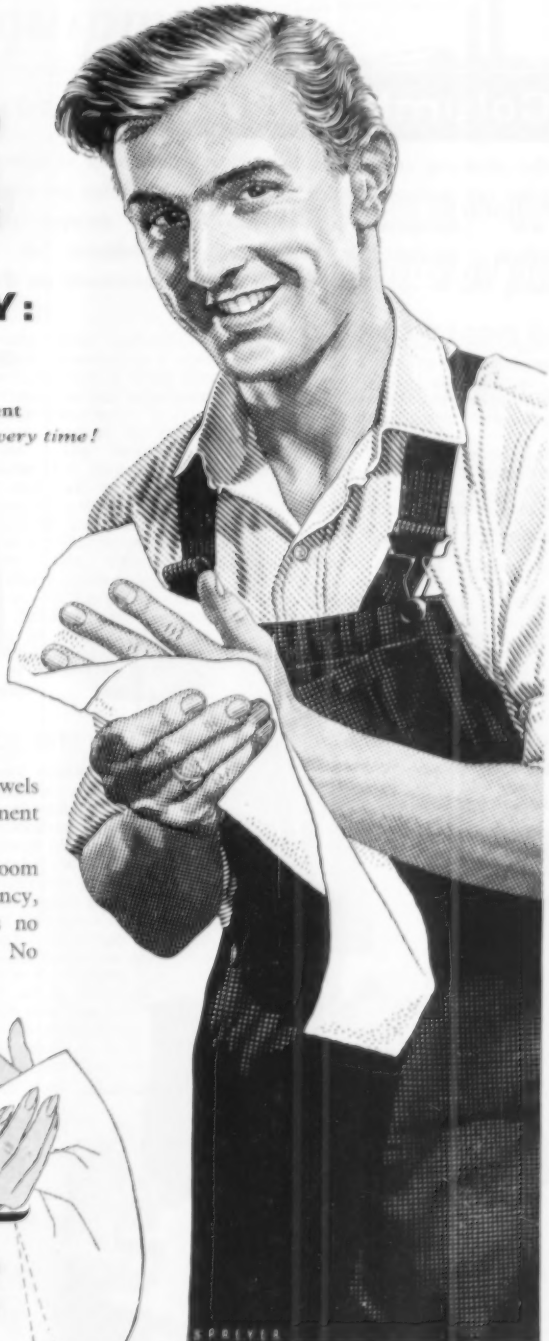

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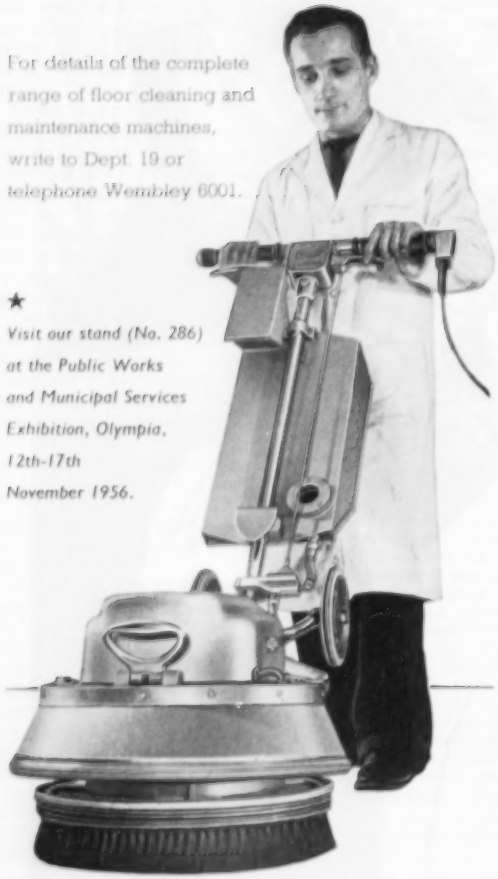

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Efficiency Aids

Readers who wish to know the suppliers of any of the products referred to in this section are asked to write to the Editor, quoting the reference number which appears at the end of the paragraph. We are always glad to consider for publication descriptions — preferably accompanied by an illustration suitable for reproduction—of new products.

KILN COOLER

THE problem of rapidly removing heat from kilns after bricks have been fired has now been solved in a simple manner. As a result the drawing of bricks can start some 24 hours earlier than was formerly possible. The solution is the *Aerofoil* fan which is placed over one of the kiln's fuel feed holes, after the firing period. This extracts heated air

and draws in cool air through the chamber entrance. The draught through the kiln quickly reduces the temperature sufficiently to enable men to enter and work in comfort.

The fan is a 15-inch, single stage unit running at 2,850 r.p.m. It is fitted with a short length of duct which tapers to the diameter of the fuel feed hole, and, for ease of portability, is mounted on an angle-iron trolley. As the fan handles air at a fairly high temperature and is exposed to the weather, the motor is treated for air temperatures up to 250°F. It has glass fibre insulation and is given a special heat-resisting impregnation and finish, including silicone materials where applicable. **(PM/1180.)**

UP-TO-DATE WELDERS

AIR-OPERATED single and repeat spot welders have just been introduced in a redesigned series comprising 40, 60, 100 and 150 kVA welders. A feature of the series is its versatility; based on a standardised frame, the major components such as pressure cylinder and lower arm arrangements are interchangeable.

The 40 kVA welder has a throat depth of 12-36 in. and, like all the series, is fitted with a four function timer controlling squeeze delay, weld-, hold- and off-time. This can be quickly removed as a complete unit for servicing and is fitted with a lock to prevent unauthorised adjustment once a sequence has been set.

Primary current control is by an ignitron contactor. The lower arm arrangement allows for versatile entry of components and can be raised or lowered by means of a hydraulic jack. The foot switch incorporates two pressures —the first to close the electrodes and the second to initiate welds. This feature should be particularly appreciated when spot welding in difficult positions. Restrictors are fitted to cushion the downward thrust in order to prevent hammering. When used for repeat welding, speeds of up to 180 spots per minute are possible. **(PM/1181.)**

MOBILE WELD SETS

WELDING sets which are independent of electric mains and are economical in operation, have been developed for workshop use as well as for repair work away from a fixed workshop. The *Jenbach* "JW 20 Sf" mobile diesel welding generator consists of the "JW 20 M" diesel engine which drives a welding generator through a flexible vee-belt drive designed with a high factor of safety, the ingenious design satisfying all requirements of electric welding.

The generator set is mounted on a sprung chassis with two wheels fitted with pneumatic tyres. Its relatively low weight and handy design enable it to be towed quite easily, while on building sites it can be pushed about by hand. A close fitting

sheet steel casing protects both engine and generator from climatic influences, as well as from unauthorised interference. Two of the side covers are removed when working, for easy access to the controls and connections.

The engine has a horizontal working cylinder surrounded by a large water space. Working on the four-stroke cycle, the engine will run continuously at 1,500 r.p.m., giving an effective 20 H.P. at the belt pulley. A strong cast iron oil and dustproof case encloses all the moving parts of the engine, including the fuel injection pump. All working parts can be taken down without removing the case from the chassis of the set so that engine maintenance is greatly simplified. **(PM/1182.)**

MEASURING DISTANCE

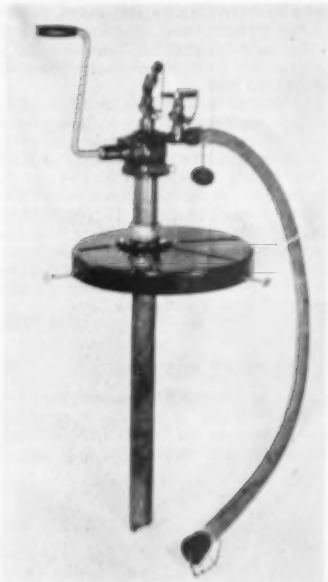
THIS new measuring instrument, say the makers, is rapidly superseding older methods of road measurement throughout the world. And it can in

fact measure all types and conditions of terrain. The measuring wheel is not of the pneumatic type—which is dependent on constant air pressure for accurate work—but has a synthetic oil resisting covering ground to exact diameter. A scraper mounted at the rear of the wheel

prevents obstructions. Other details: length 3 ft., weight 7 lb., telescopic handle shaft and a quick-lever resetting counter with figures clearly visible while operating. The whole is packed in a fibre carrying case. **(PM/1183.)**

FOR GUNS AND PUMPS

THIS gun and pump filler attachment which is now in production has the advantage that it can be used on drums containing lubricants ranging from 56 lb. to 130 lb. capacity. The design incorporates provision for adjustment of the tube length below the lid. The latter has a rim which fits completely over the top of the lubricant package and is fitted with tapping screws to



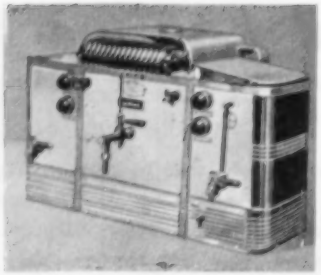
accommodate drums of different sizes. Grease guns can be easily charged, and with the aid of the additional delivery hose, lubricants can be readily transferred to a pump or any other point, ensuring that the lubricant is kept completely clean and uncontaminated by foreign matter. **(PM/1184.)**

Canteen

NEW COFFEE MAKER

THIS electrically heated café set was specially designed to meet the requirements of *Messrs. F. W. Woolworth & Co. Ltd.* for the recently opened Diamond Bar at their Rhyl store.

They specified they wanted a set which would not only be unique, but modernistic in design and different from any existing type of machine. The set consists of a central independent boiler,



automatically controlled, similar to the standard CE model, and two stainless-steel lined 12-pint milk and coffee urns, each of which is water jacketed and fitted with independent immersion heater and system of thermostatic control.

Coffee making is performed by means of a fabric infuser suspended in a stainless-steel frame, and a special device is fitted to enable this to be raised above the level of the liquor for draining purposes and also to prevent the grounds being constantly immersed in the liquor after the coffee has been made. The set is totally enclosed in a chromium-plated outer cover, the design of which is unique, modernistic, extremely neat and compact in appearance. **(PM/1185.)**

Handling

EASE THROUGH POWER

THESE power trucks from a range by a well-known manufacturer can be demonstrated in customers' premises under actual working conditions. They are (1) a powered push truck and (2) a powered porter truck.

The push truck has a sliding wheel system which enables it to turn on its own diagonal length and control is by a

Push Truck

single hand lever which automatically cuts off the power when released and can be operated from either end of the truck. Likewise with the reverse provided. Charging, too, has been so simplified that it can be carried out by inexperienced persons. The truck runs an average working day without recharging.

The porter truck has a capacity of 5 cwt.

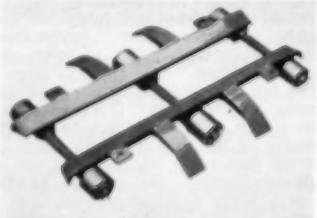
A single control lever starts the truck and automatically engages the drive, the power being cut the moment the control lever is released, the truck then becoming free-running. The simplicity of operation of this lightest of power handtrucks, say the makers, is astonishing; it can be operated by unskilled, female or elderly

Porter Truck

workers. Its dimensions moreover (overall height 52 in., overall width 24 in.) make it ideal for narrow gangways and confined spaces. As with the push truck, it operates for a normal working day without recharging. **(PM/1186.)**

ROBUST DOLLY

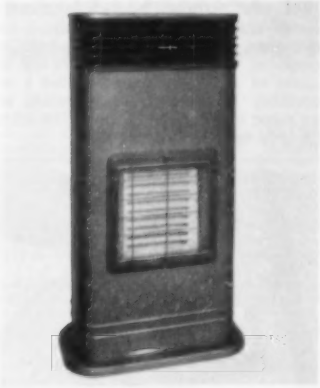
THIS dolly truck for "round" loads and a carrying capacity over 2 tons is of all-steel construction. The centre wheels are of larger diameter so that the truck can pivot easily and turn in its own length. All six wheels are fitted with



roller bearing to give maximum manoeuvrability under full load conditions. Its overall height is only 3¾ in. but there is a high wheel model for use on rough, uneven or wooden floors with an overall height of 6¼ in.

The same firm have now introduced an entirely new method of transporting crates, cases and the like. It is the *Rol-a-Case* conveyor—an all-steel construction that comes in two sizes: 27 in. long × 6 in. wide and 3 in. high with two rollers and weighing about 45 lb.; 52 in. long × 6 in. wide and 3 in. high with four rollers and weighing about 90 lb. Features of these new conveyors are a rotatable axis that enables the load to be swung in any direction and a chequered top plate with small domed studs to prevent loads slipping off. **(PM/1187.)**

Heating & Lighting

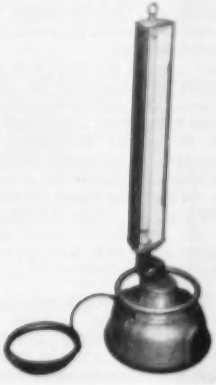


FOR AN EVEN TEMPERATURE

DESIGNED for commercial as well as domestic space heating, this new *Sussex* gas radiator has overall dimensions of 31 × 16¾ × 9 inches and a gas rate of 9,000 B.T.U/Hr. It will maintain an even temperature when situated where widely varying air changes exist and is thus suitable for heating halls, offices and waiting rooms. The body and surround are of sheet steel, louvre grille and base and front frame cast aluminium, burner cast iron, governor and regulator brass. There is a plated dress guard secured top and bottom and the whole is finished in stove enamel gold. **(PM/1188.)**

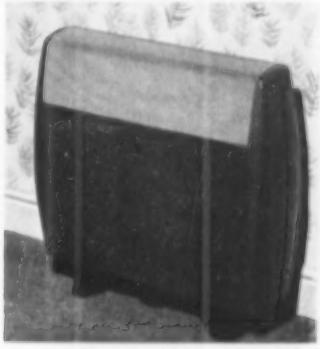
WHERE SPACE IS LIMITED

THOSE sections of industry concerned with the repair and overhaul of machinery, cars, tanks and boilers, etc., will have an obvious need for this portable fluorescent light unit which is now available. The *EDM* 103 can be adjusted to throw a concentration of shadow-free light in any direction. The light, which is a 2 ft. 20 watt fluorescent tube working on 230 or 240 volt mains, can be swivelled through 180° and the reflector tilted at any angle. In the horizontal position the light is only 10 inches from the ground, so that it can be slipped under vehicles or other objects and the reflector placed, if required, to throw the light directly upwards. The unit weighs 22 lb. and the overall height with the light in a vertical position is 3 ft. 6 ins. **(PM/1189.)**



THERMOSTATIC CONVECTOR

THIS new electric convector fire with thermostat has a loading of 2,000 watts. Its dimensions are 23 × 23¾ × 7¼ inches and it weighs only 15¼ lb. It is in golden bronze with hammered finish stove enamel body. **(PM/1190.)**



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Extension of Service

SERVICING industrial clothing at home can mean hard work for the housewife and cannot always be done satisfactorily. Moreover the expense of buying, replacing, repairing and cleaning is frequently prohibitive to the individual and unwelcome to the firm. It is therefore of great interest to employers and workers alike that the *Sketchley* Industrial Overall Replacement Service has now been extended to London and the Home Counties.

By arrangement with the employer industrial overalls are provided, cleaned, repaired and replaced, and continuous service is maintained by a fleet of vans, one of which pays a weekly visit to each works or factory concerned, collecting soiled garments and delivering clean ones.

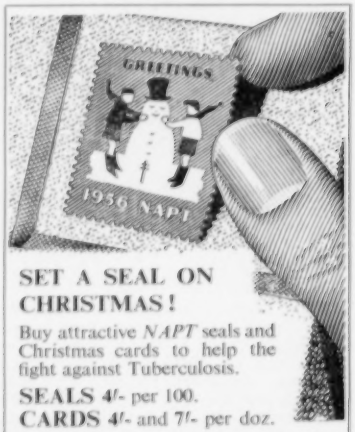
The *Sketchley* overall is a B.S.I. garment in several shades and styles, of British manufacture and material, and every wearer receives a set of three, one in use, one in reserve and the other at *Sketchley's* Nottingham works. The life of each garment is not intended to be very long, and this means the replacement rate is reasonably high.

The weekly cost of the service is 2s. for each coloured garment and 2s. 3d. for each white one, and unless the employer bears the cost himself the usual method of payment is by agreed deductions from the wage packet. It is worth remembering that workers or employers who take part in the scheme can claim income tax relief according to their expenditure, and that all the forms and general literature connected with this aspect are provided by *Sketchley*.

Firms wishing to acquaint employees with the service can borrow the display unit, left. Details are provided in the trays attached, and the reverse side shows the other styles of overall.

Dates to Note

THE next National Service registration for men born between July 1 and September 30, 1938, will be held on November 17. For men born in the last quarter of 1938—between October 1 and December 31—the next registration will take place in April next year. The actual date is to be announced later.



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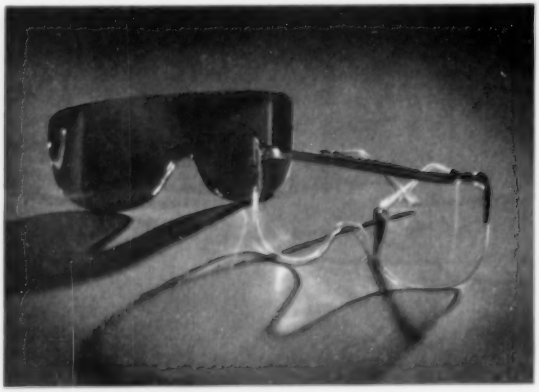

- *So light and comfortable that the wearer literally forgets its presence.*
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- *Chromium-fitted frame guaranteed for twelve months; windows are instantly replaced.*
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Summary of Official Publications

READERS' GUIDE TO ACTS, STATUTORY ORDERS, NEW RULINGS AND AWARDS CONCERNING INDUSTRY AND PERSONNEL

GENERAL

Choice of Careers, New Series No. 52. The Physiotherapist and the Remedial Gymnast. *H.M.S.O.* 9d.

Automation in Perspective. Short version of report by the Department of Scientific and Industrial Research. *H.M.S.O.* 1s. 6d.

Human Relations in Industry. Papers presented at the 1956 conference in Rome. Project No. 312. European Economic Co-operation Organisation. 18s.

National Bureau of Standards Handbook 42. Safe Handling of Radioactive Isotopes. U.S. Government Printing Office. 1s. 9d.

Underground Plants for Industry. U.S. Government Printing Office. 3s.

List of Statutory Instruments, January to June, 1956. *H.M.S.O.* 9d.

Convention between British and Danish Governments on Payment of Compensation or Benefits in respect of Industrial Injuries (including Occupational Diseases) as relating to Denmark and Northern Ireland, July 9, 1956. (Not yet ratified by United Kingdom Government.) *H.M.S.O.* 8d.

National Insurance (Industrial Injuries) Acts, 1946 to 1954. Claim for Industrial Injury Benefit. Decision of the Commissioner relating to: personal injury—cause of "collapsed disc". No. R(I) 20/56. *H.M.S.O.* 4d.

National Insurance Acts, 1946 to 1955. Claim for retirement pension. Decisions of the Commissioner relating to disqualification for absence abroad—effect of amending regulations, No. R(P) 10/56, *H.M.S.O.*, 3d., and inconstancy with retirement—17 hours' work a week, No. R(P) 11/56. *H.M.S.O.* 4d.

National Insurance Acts, 1946 to 1955. Claim for unemployment benefit. Decisions of the Commissioner relating to: Seasonal worker—inconsiderable period of non-registration, No. R(U) 13/56, *H.M.S.O.* 4d. and misconduct—misunderstanding of employer's instruction, No. R(U) 14/56. *H.M.S.O.* 3d.

STATUTORY INSTRUMENTS

No. 1359. The Chain Wages Council (Gt. Britain) (Abolition) Order, 1956. Dated August 27, 1956, made by the Minister of Labour and National Service under Section 6 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 2d. Abolishes Chain Wages Council (Gt. Britain). Effective from 11/9/56.

No. 1360. The Wages Regulation (Road Haulage) (Amendment) (No. 2) Order, 1956. Dated August 28, 1956, made by the Minister of Labour and National Service under Section 10 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 3d. Amends previous orders, and alters rates payable for overtime worked on a Saturday. Effective from 12/9/56.

No. 1437. The Wages Council (Rubber Proofed Garment Making Industry) Order, 1956. Dated September 13, 1956, made by the Minister of Labour and National Service under Section 4 of the Wages Councils Act, 1945 (a). *H.M.S.O.* 3d. Institutes Wages Council for workers in the above industry. Effective from 15/10/56.

INDUSTRIAL DISPUTES TRIBUNAL AWARDS

No. 886. Claim for Payment of Holiday Pay for Christmas Day and Boxing Day, 1955, in respect of a Worker employed by an Engineering Firm at Woolwich. Claim: That the firm should make appropriate payments in accordance with the terms of agreement between the engineering and allied employers' National Federation and The Confederation of Shipbuilding and Engineering Unions, 1946. **Award:** Claim established. (14/8/56.)

No. 887. Grading of an Officer employed by the Newcastle Regional Hospital Board. Claim: That the Board should regrade the post of chief clerk of the Newcastle-upon-Tyne East Chest Clinic from grade C to D of the amended salary grades prescribed in A.C. Circular No. 17 of the Whitley Councils. **Award:** Claim not established. (14/8/56.)

No. 888. Grading of a Local Authority coming within the Purview of the National Joint Council for Local Authorities' Services (Manual Workers). Claim: That the grading of Tamworth Borough Council should be transferred from Zone B to Zone A. **Award:** Claim not established. (17/8/56.)

No. 889. Wages Rates of Workers employed on the Maintenance and Repair of Vehicles by a Road Haulage Firm in Scotland. Claim: For specified increases in wage rates. **Award:** Claim established effective from first full pay period following April 5, 1956. (21/8/56.)

No. 890. Grading of an Officer employed by the North East Metropolitan Regional Hospital Board. Claim: That post of supplies assistant should be graded in Grade E of appropriate salary scales. **Award:** Claim established effective from August 1, 1956. (21/8/56.)

No. 891. Remuneration of Certain Foremen employed by the Cumberland and Westmorland Home and Workshops for the Blind. Claim: For certain specified salary scale. **Award:** Claim established, effective from first full pay period following 21/8/56.

No. 892. Grading of an Officer employed by the South East Metropolitan Regional Hospital Board. Claim: That certain officer should be graded in Grade G of appropriate salary scale. **Award:** Claim not established. (24/8/56.)

No. 893. Rates of Wages of Tugmen employed by a Towage Company at Grangemouth. Claim: For substantial increase in wage rates. **Award:** Present wage rates increased by 8s. 6d. per week, effective from first full pay period following 24/8/56.

No. 894. Remuneration of a Chief Accountant employed by the Manchester Corporation. Claim: For a specified salary scale in respect of the above post. **Award:** Salary scale applicable shall be Scale G, effective from April 1, 1956. (27/8/56.)

No. 895. Observance of Certain Recognised Terms and Conditions of Employment by a Laminated Spring Repairer at Sheffield. Claim: That employer should observe recognised terms and conditions of employment relating to five-day week of 40 and 44 hours. **Award:** Claim not established. (29/8/56.)

No. 896. Rates of Wages of Certain Maintenance Workers employed in the Cotton Industry. Claim: For increase in pay of 4d. per hour for maintenance mechanics and electricians. **Award:** Wages increased by 10s. per week, effective from first full pay period following 31/8/56.

No. 897. Working Week of Certain Staff Workers employed by an Engineering Firm at Workington. Claim: That normal working week of clerical workers in the production department should be 35½ hours. **Award:** Claim established. (3/9/56.)

No. 898. Rates of Wages and Conditions of employment of Certain Clerical Workers Employed by a Brewery Company at Newcastle-upon-Tyne. Claim: For alteration in existing wages and conditions of employment. **Award:** Claim not established. (5/9/56.)

No. 900. Rates of Wages of Certain Workers employed in the Roofing Felt Manufacturing Industry. Claim: For an increase of 4d. per hour for adult male workers. **Award:** Rates of pay shall be increased by 2½d. per hour, effective from first full pay period following 11/9/56.

No. 901. Claim for the Application of the Terms of a Particular Agreement in the Engineering Industry by a Foundry Firm at Norwich. Claim: That the employers should apply terms of a particular relaxation of existing customs agreement in the engineering industry in respect of certain workers. **Award:** Claim established. (11/9/56.)

INDUSTRIAL COURT AWARDS

No. 2618. National Health Service—Mental Nursing Staff—Overtime—Claim for Increase in Rate of Pay. Reference: To determine a difference between the Management and Staff Sides of the Nurses and Midwives' Whitley Council arising from a claim that in the mental nursing service staff entitled to receive payment for hours worked in excess of 96 per fortnight, should be paid for such hours at overtime rates of time and a quarter for the first two hours and time and a half for all additional hours. **Award:** Claim not established. (26/7/56.)

CIVIL SERVICE ARBITRATION TRIBUNAL AWARDS

No. 316. Writers of H.M. Coastguard. Claim: That the salary scales be increased with retrospective effect. **Award:** Claim not established. (28/9/56.)

November Management Diary

BURTON MANOR

5-16 "Supervisory Management." Course for foremen.
11-16 Expressing yourself in writing and speech.
19-30 "A Survey of the Docks Industry." Course for supervisory grades in the docks and shipping industries. Bookings through National Association of Port Employers.
25-30 "Electrical Safety." Course for foremen in charge of electrical appliances.

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ST. ALBANS

Management Diary (*Continued*)

22-26 **Brighton.** "Visual Aids." Study group for industry and commerce.
30-Dec. 3. **Brighton.** Office Executives.

Non-residential Courses at Robert Hyde House.
6-7 Advanced Course for Women Supervisors.
12, 19, 26 and Dec. 3. Evening study groups for foremen and forewomen (Series 2).
13 Course on manual lifting and handling.
15 "The Human Implications of Work Study."
21 "Further Essentials of Personnel Administration."
20 Canteens day course.
8 "New Thinking" Luncheon. Subject: "The Quality of Britain's Future Industrial Leaders."
22 Industrial Editors' (Welfare) Group. Subject: "How to Interest the Adolescent."

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Practice of Supervisory Management.
16-18 Buxton.
Human Relations.
3-5 Ilminster.
24-26 Missenden Abbey.
Industrial Relations, Industrial Law.
2-4 Ashorne Hill, Leamington.
The Foreman and Cost Reduction.
23-25 Ashorne Hill, Leamington.

INSTITUTE OF PERSONNEL MANAGEMENT
4-9 **Droitwich Spa.** "Employment and Welfare." Residential course for personnel staff.
26-30 **London.** Five-day course for training officers.

INSTITUTE OF WELFARE OFFICERS
23 **London.** "Automation—and People."

NATIONAL INSTITUTE OF INDUSTRIAL PSYCHOLOGY
5-9 **London.** Course in Selection Methods, Part III.
13-15 **London.** Course for Supervisors.
19-23 **London.** Course in Selection Methods, Part I.

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URCHFONT MANOR
12-18 "The Human Factor in the Office." Course for members of staff not engaged in physical production.
26-Dec. 2. "Thinking, Speaking and Writing."

Selecting Safety Harness

(*Continued from page 265*)

durable, flexible and easily handled. Among its other virtues are its resistance to moisture and mildew, and it can be put into storage in a wet condition. Metal is sometimes used in lifelines though it is essential that these should not be used in areas where there is electricity and steel. Though effective in some circumstances this type of line is rigid and the problem of impact arises.

As with all safety codes the co-operation of operatives is important and all workers using belts or harness should be encouraged to inspect them immediately before use; additionally the equipment should be periodically examined by an expert. The inspections must follow a pattern and examiners should know what they are looking for. Leather belts may show cuts and if the cuts are on the skin side of the hide it is a sign of advanced wear and the belt should be discarded. Similarly, fabric belts with worn or cut outer plies should be jettisoned. A worn belt is an unsafe one. Many belts are riveted and the condition of the rivets is also important. The incorporation of pockets and loops in the belts for jobs where light tools are used is another item in the overall safety check up; sometimes collapsible canvas tool buckets are advisable so that the operative may have free hands while climbing. Incidentally, it is essential to protect edge tools by some form of guard while they are being thus carried.

Guide to the Factories Acts

(*Continued from page 272*)

limits the amount of such overtime, *using the factory and not the individual worker as a basis of calculation.* Overtime (for women and for young persons) must not exceed one hundred hours in any calendar year, not six hours in any one week, nor must it take place in more than twenty-five weeks in any calendar year.

It is important to note that none of the limits first stated must be overstepped. It is, therefore, not permissible to employ women for six hours overtime for twenty-five weeks in the year because the limit of one hundred overtime hours would be exceeded.

As a characteristic of British factory legislation, there are a number of special cases in which different limits are applied by law. These are set out in a number of sections of the 1937 Act and in a number of Regulations.

It should be pointed out that there are several other Acts of Parliament which also deal with the hours of work of women and young persons in industry. An Act which deals with shifts and which is often invoked to-day is The Employment of Women and Young Persons Act, 1936.

This concludes the outline of the Factories Acts which emerge as a strange blend of history and good practices, of old wrongs put right and new hazards anticipated. Some of the older legislation remains remarkably and unexpectedly appropriate in to-day's conditions. But as industry moves forward into the Atomic Age, the time will come when a new statute will be needed to cope with problems not contemplated by our legislators in 1936.

Are your floors and stairs dangerous?

Modern factories install:

Flexible non-slip p.v.c. flooring

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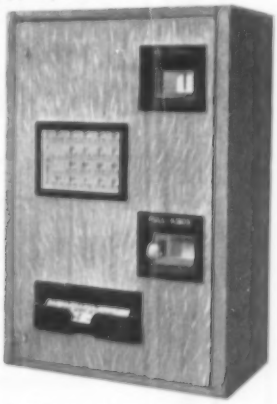

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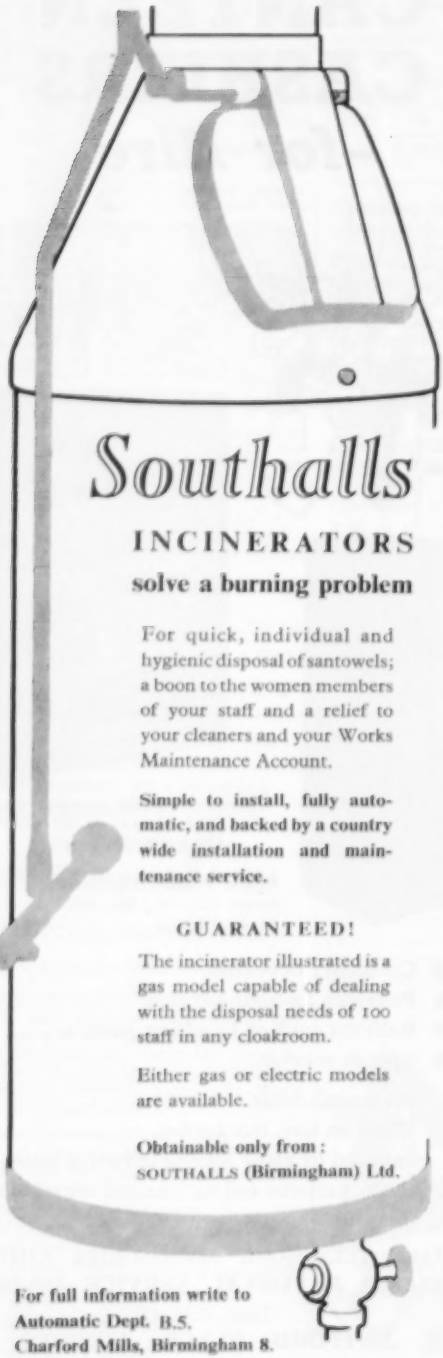

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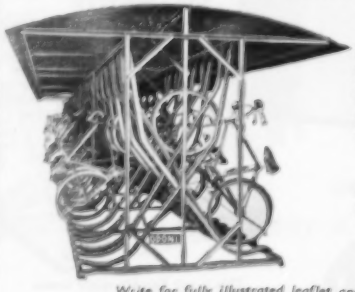

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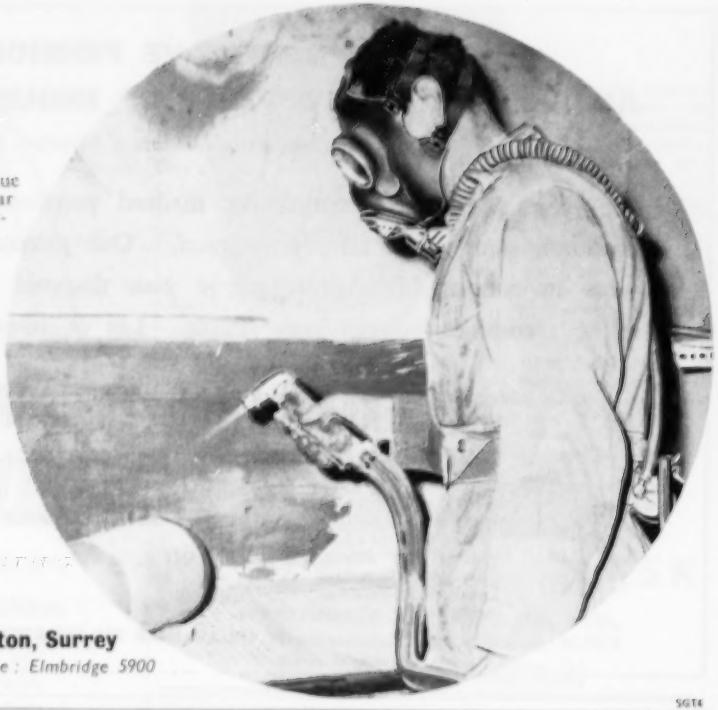

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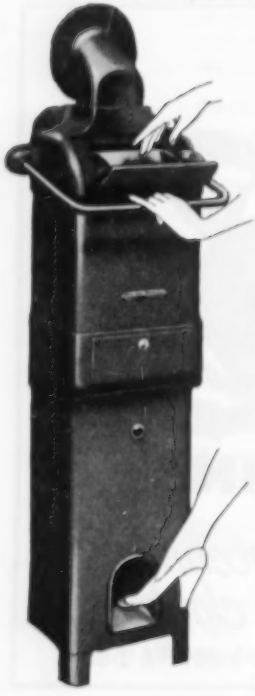

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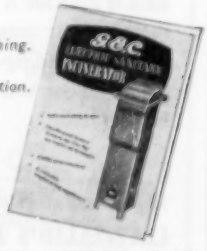

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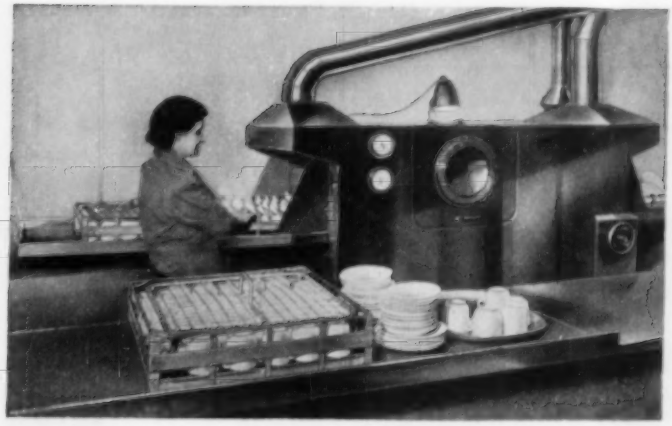

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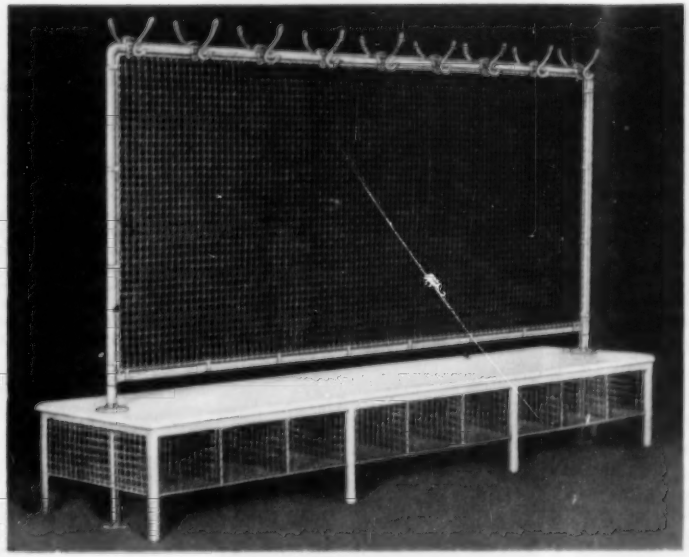

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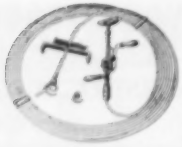

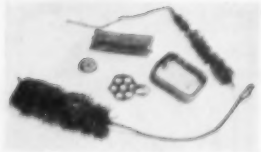

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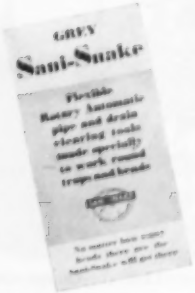

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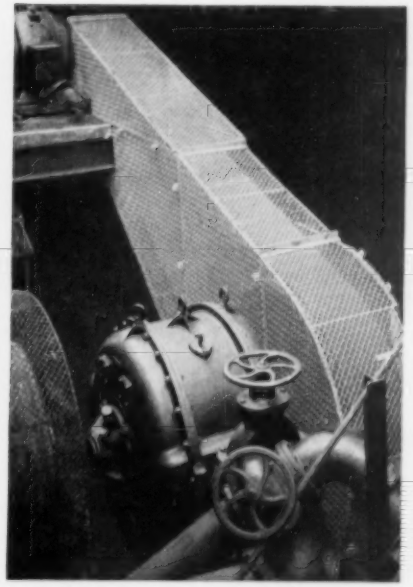

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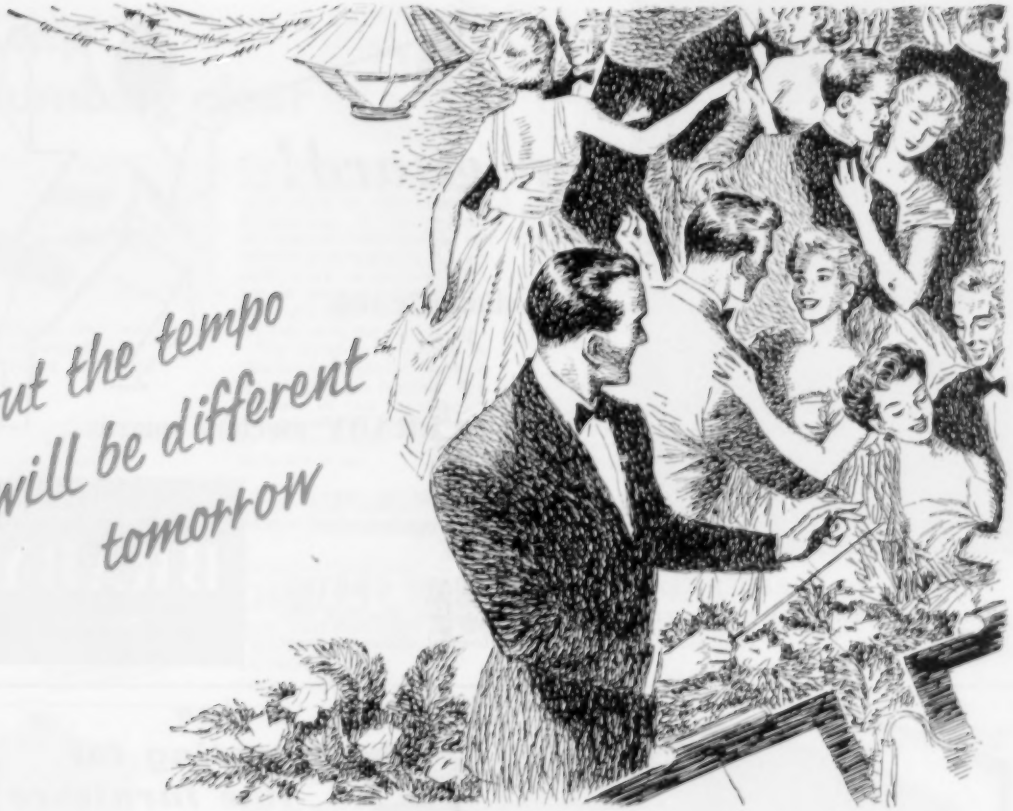

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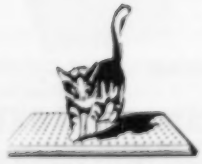

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